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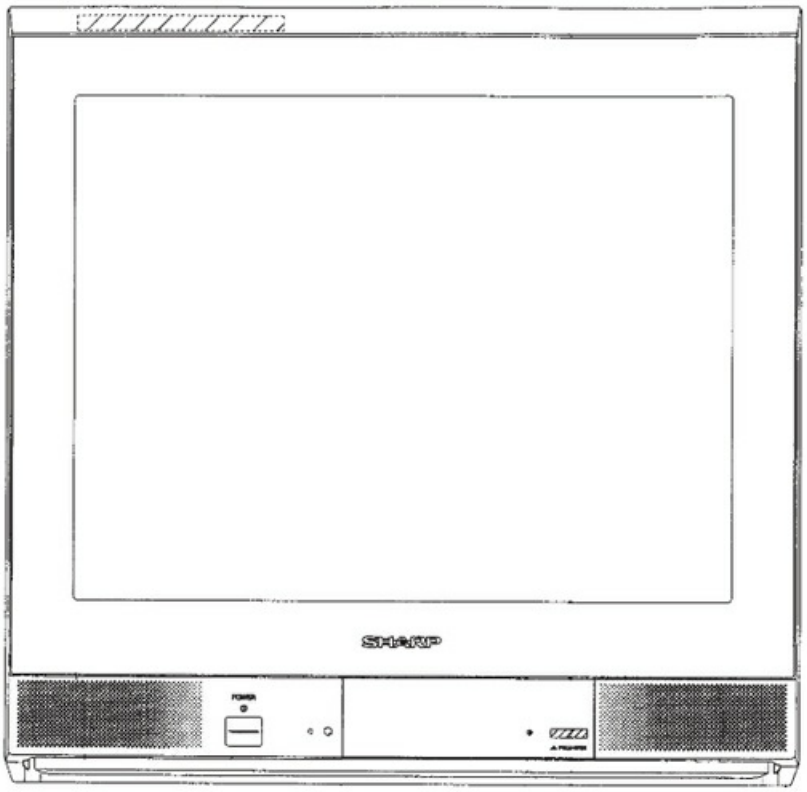
SHARP 21YF30 SERVICE MANUAL



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SHARP SERVICE MANUAL

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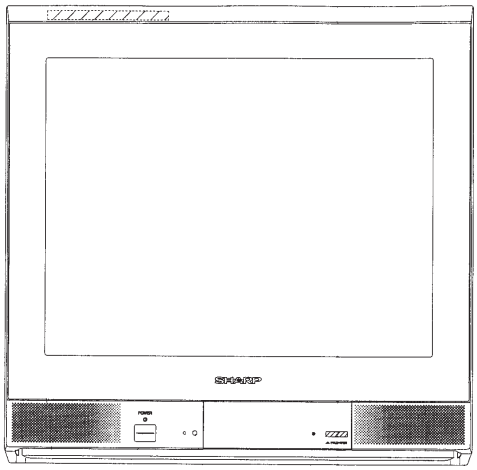

COLOUR TELEVISION

Chassis No. GA-2

MODEL 21YF30

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

FEATURE

- PAL B/G
- NTSC (AV THRU)
- Full Auto Channel Preset and Auto Channel Skip
- 100-CH Program Memory
- CATV(Hyper Band) Ready <Used Frequency Synthesizer Tuner>
- Black Stretch Circuit
- On Timer/Sleep Timer/Reminder Timer
- Blue Back Noise Mute
- Front AV IN & Rear AV IN/OUT Terminals
- Favourite Channel
- Front Headphone Jack
- Colour Comb Filter (AV IN)
- High Contrast Picture
- Hotel Mode
- English/Thai Language OSD
- Mono Bilingual
- White Temperature Adjustment
- Component In
- Surround Sound Effect(With Bass/Treble/Balance)
- AV Stereo

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WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user – serviceable parts inside. Refer servicing to qualified service personnel.

SHARP CORPORATION

SPECIFICATIONS

Convergence	Self Convergence System
Focus	Electrostatic Focus High Bi-Potential
Sweep Deflection	Magnetic
Intermediate Frequencies	
Picture IF Carrier	38.9MHz
Sound IF Carrier Frequency	
5.74MHz	33.16MHz
5.5MHz	33.4MHz
Colour Sub-Carrier Frequency	34.47MHz
Power Input	AC110 ~ 240V, 50/60 Hz
Power Consumption	99W
Audio Power Output Rating	4.0W(rms)X2
Speaker	
Size	5 x 9 cm Eliptic (2pc)
Voice Coil Impedance	16 ohms at 400 Hz
Aerial Input Impedance	
VHF/UHF	75 ohms Unbalanced
Receiving Channels (PAL B/G)	
VHF-Channels	E2(48.25MHz) thru E12(224.25MHz)
UHF-Channels	E21(471.25MHz) thru E69(855.25MHz)
Receiving Frequency	
VHF-Channels	48.25 thru 463.25MHz
UHF-Channels	471.25 thru 863.25MHz
Dimensions	Width: 502 mm
	Height: 486 mm
	Depth: 482 mm
	Weight(approx): 22 kg
Cabinet material	All Plastics

Specifications are subject to change without prior notice.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICE OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by Connecting a 10K ohm Resistor in series with an insulated wire(such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. **Picture tube in this receiver employs integral implosion protection.**
2. **Replace with tube of the same type number for continued safety.**
3. **Do not lift picture tube by the neck.**
4. **Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.**

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute Minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. **When repairing the circuit, be sure not to increase the high voltage to more than 28.6kV (at beam 0 μA) for the set.**
2. **To keep the set in a normal operation , be sure to make it function on 27.0kV ±1.5kV (at beam 1,100 μA) in the case of the set. The set has been factory - Adjusted to the above-mentioned high voltage.**
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. **Do not substitute a picture tube with unauthorizerd types and/or brands which may cause excess X-ray radiation.**

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety Checks.

1. **Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.**
2. **Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor- capacity networks, mechanical insulators etc.**

ADJUSTMENT PRECAUTIONS

This model's setting are adjusted in two different ways: through the I²C bus control and in the conventional analog manner. The adjustments via the I²C bus control include preset-only items and variable data.

CAUTION : MAKE SURE TV SET IN "NORMAL CONDITION" BEFORE SWITCH TO SERVICE MODE FOR ADJUSTMENT.

1. Setting the service mode by the microprocessor.

①. Short JA 304 & JA 307 , then tv set will switch to the service mode position, and the microprocessor is in input mode. (Adjustment through the I2C bus control). (Use JWS Key to set as well).

②. Press the MENU key on the remote controller to get ready to select the mode (Adjustment mode, Setting mode, Check mode and Option mode) one by one.

③. Press the CH DOWN / UP key on the remote controller to select the items in Adjustment mode, Setting mode and Option mode.

④. Using the VOLUME UP/ DOWN key on the remote controller, the data can be modified.

⑤. In Check mode the data cannot be changed.

⑥. Disable the short of JA 304 & JA 307, it will switch to the normal mode (OFF) position, and the microprocessor is out of the service mode.

2.Factory Presetting.

①. Short JA 304 & JA 307, then turn ON the main power and release the shorted JA304 & JA307 after raster appeared on the screen. Initial values are automatically preset, only when a new EEPROM is used. (Judge with the first 4 bytes.)

②. The initial data are preset as listed in page 4-2, 5-1, 5-2 & 6-2.

③. Make sure the data need modification or not(Initial data).

Note: Once the chassis has been assembly together and ready to be POWER ON for the FIRST TIME, make sure to short JA304 & JA307 to switch to the service mode position first and then turn on the main power switch (See 2-① above).

Precaution: If haven't done this initiation, it may possibly generate excessive Beam current.

3. For reference please check with memory map.

ADJUSTMENT ITEM

*****Below is the adjustment items that we should done, PLS FOLLOW THE PROCEDURE. Otherwise some adjustment items will not be accurate.**

NO ***	ADJUSTMENT ITEM	EFFECTIVE MODEL	REVISION
1	BUS SET UP	ALL	
2	OPTION SET UP	ALL	
3	V-SIZE (50 Hz)	ALL	
4	V-SHIFT (50 Hz)	ALL	
5	H-SHIFT (50 Hz)	ALL	
6	H-VCO	ALL	
7	VIF-VCO	ALL	
8	S-TRAP fo	ALL	
9	RF-AGC	ALL	
10	PURITY ADJ	ALL	
11	CONVERGENCE ADJ	ALL	
12	FOCUS ADJ	ALL	
13	SCREEN	ALL	
14	WHITE BALANCE	ALL	
15	SUB-BRIGHTNESS	ALL	
16	SUB-CONTRAST	ALL	
17	SUB-TINT	ALL	
18	SUB-COLOR	ALL	
19	MAX BEAM CHECK	ALL	
20	BEAM PROTECTOR CHECK	ALL	
21	HV PROTECTOR CHECK	ALL	
22	OTHER PROTECTOR CHECK	ALL	
23	AV OUT CHECK	ALL	
24	AV IN CHECK	ALL	
25	CONTRAST CONTROL CHECK	ALL	
26	COLOR CONTROL CHECK	ALL	
27	BRIGHTNESS CONTROL CHECK	ALL	
28	TINT CONTROL CHECK	ALL	
29	SHARPNESS CONTROL CHECK	ALL	
30	CH DISPLAY COLOR CHECK	ALL	
31	NORMAL DISPLAY CHECK	ALL	
32	WHITE TEMP CONTROL CHECK	ALL	
33	COLOR SYSTEM CHECK	ALL	
34	SOUND SYSTEM CHECK	ALL	
35	NOISE MUTE CHECK	ALL	
36	HEAD PHONE CHECK	ALL	

USER DATA IN SERVICE MODE

* While SERVICE mode ON, EEPROM DATA will switch to the service data.
  Also, once SERVICE mode OFF, EEPROM will switch back to previous USER DATA.
* In the service mode, the user data establish as below,

	USER DATA
CONTRAST	MAX (60)
COLOUR	CENT (0)
BRIGHTNESS	CENT (0)
TINT	CENT (0)
SHARPNESS	CENT (0)
WHITE TEMP	STANDARD
S-VOLUME	MIN
SURROUND	OFF
TREBLE	CENT (0)
BASS	CENT (0)
BALANCE	CENT (0)
BLUE BACK	OFF
C SYSTEM	AUTO
S SYSTEM	*1

*1: For each CH, data is same as before switch to Service Mode.

The flow of Mode lists as following,

* Direct Key-in Mode for Service Items in Service Mode

RC (HEX)	SERVICE-ITEM
80	R-CUTOFF UP (IN SERVICE MODE V00)
40	G-CUTOFF UP (IN SERVICE MODE V00)
C0	B-CUTOFF UP (IN SERVICE MODE V00)
20	R-CUTOFF DOWN (IN SERVICE MODE V00)
A0	G-CUTOFF DOWN (IN SERVICE MODE V00)
60	B-CUTOFF DOWN (IN SERVICE MODE V00)
E0	R-DRIVE UP (IN SERVICE MODE V00)
10	B-DRIVE UP (IN SERVICE MODE V00)
50	B-DRIVE DOWN (IN SERVICE MODE V00)
E4	R-DRIVE DOWN (IN SERVICE MODE V00)
E4	Y-MUTE (BESIDES OF SERVICE MODE V00)
75	RF-AGC (V01)
F5	VIF-VC0 (V02)
C2	H-VCO (V03)
8D	SUB-CONTRAST (V04)
D6	SUB-COLOR (V05)
36	SUB-TINT(V07)
46	SUB-SHARPNESS (V08)
C6	SUB COLOR YUV (V09)
26	SUB TINT YUV (V10)
24	V-SIZE (V11), V-SIZE60 (V17)
54	V-SHIFT (V12), V-SHIFT60 (V18)
74	H-SHIFT (V13), H-SHIFT60 (V19)
66	SCM-BR (V14)
E6	SCM-BB (V15)
C4	SUB VOL (V16)
4C	S-TRAP BG (V20)
CC	S-TRAP I (V21)
2C	S-TRAP D/K (V22)
AC	S-TRAP M (V23)
EC	S-TRAP 574 (V24)
C1	AUTO ADJ FOR V01, V02, V03, V20, V21, V22, V23,V24
CA	T-SET
81	SERVICE MODE

** After short JA304 & JA307, and turn on the MAIN POWER switch, read data from EEPROM address 00H ~ 03H. Then compare to the list below. If different, initialize the EEPROM.

Address	:	Data	Address	:	Data
00H	:	8AH	02H	:	82H
01H	:	84H	03H	:	89H

** There are four stages of Service Mode data;
First stage data from V00~V24 (ADJUSTMENT MODE).
To go into second stage of service mode data, press MENU key.Second stage data from F01~F113 (SETTING MODE).
To go into third stage of service mode data, press MENU key. Third stage data is CHECK MODE.
To go into fourth stage of service mode data, press MENU key. Fourth stage data from O01-O21. (OPTION MODE)

ADJUSTMENT MODE (FIRST STAGE)

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ/AUTO	REMARK
R-DRIVE	V00	0~127	63	ADJ	PLS REFER TO ADJ ITEM FOR SCREEN AND WHITE BALANCE
B-DRIVE	V00	0~127	63	ADJ	
R-CUT	V00	0~255	127	ADJ	
G-CUT	V00	0~255	127	ADJ	
B-CUT	V00	0~255	127	ADJ	
RF-AGC	V01	0~127	50	AUTO	
VIF-VCO	V02	0~63	31	AUTO	
H-VCO	V03	0~7	3	AUTO	
SUB-CONTRAST	V04	0~127	100	ADJ	
SUB-COLOR	V05	0~127	63	ADJ	
SUB-BRIGHT	V06	0~255	127	ADJ	
SUB-TINT	V07	0~127	63	ADJ	
SUB-SHARPNESS	V08	0~63	43	FIX	
SUB-COLOR -YUV	V09	0~127	90	*FIX	**BUS SET UP**
SUB-TINT-YUV	V10	0~127	63	FIX	
V-SIZE 50 Hz	V11	0~63	38	ADJ	
V-SHIFT 50 Hz	V12	0~7	3	ADJ	
H-SHIFT 50 Hz	V13	0~31	9	ADJ	
SECAM-BR	V14	0~63	37	ADJ	
SECAM-BB	V15	0~63	22	ADJ	
SUB-VOL	V16	0~60	60	FIX	
V-SIZE 60 Hz	V17	-31~0~+31	0	FIX	IF NECESSARY, ADJ
V-SHIFT 60 Hz	V18	-7~0~+7	-1	FIX	IF NECESSARY, ADJ
H-SHIFT 60 Hz	V19	-15~0~+15	+2	FIX	IF NECESSARY, ADJ
S-TRAP (BG)	V20	0~15	7	AUTO	
S-TRAP (I)	V21	0~15	7	AUTO	
S-TRAP (DK)	V22	0~15	7	AUTO	
S-TRAP (M)	V23	0~15	7	AUTO	
S-TRAP (5.74)	V24	0~15	7	AUTO	

SETTING MODE (SECOND STAGE)

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ/AUTO	REMARK
STRAPQ-BG	F01	0/1	0	FIX	
STRAPQ-I	F02	0/1	0	FIX	
STRAPQ-DK	F03	0/1	0	FIX	
STRAPQ-M	F04	0/1	0	FIX	
STRAPQ-574	F05	0/1	0	FIX	
C.CLIP-LVL	F06	0/1	0	FIX	
RGB-CLIP	F07	0/1	0	FIX	
BS	F08	0/1	0	FIX	
ABCL	F09	0/1	0	FIX	
ABCL-GAIN	F10	0/1	0	FIX	
S-OUT-LVL	F11	0~127	95	FIX	
VIF-G	F12	0~7	4	FIX	
SHPG	F13	0/1	0	FIX	
SHPG-P	F14	0/1	0	FIX	
SHPG-S	F15	0/1	0	FIX	
SHPG-N4	F16	0/1	0	FIX	
SHPG-N3	F17	0/1	1	FIX	
YDL	F18	0~7	5	FIX	
YDL-P	F19	0~7	5	FIX	
YDL-S	F20	0~7	7	FIX	
YDL-N4	F21	0~7	5	FIX	
YDL-N3	F22	0~7	5	FIX	
YDL-AV	F23	0~7	6	FIX	
YDL-AV-P	F24	0~7	6	FIX	
YDL-AV-S	F25	0~7	7	FIX	
YDL-AV-N4	F26	0~7	6	FIX	
YDL-AV-N3	F27	0~7	6	*FIX	**BUS SET UP**
YDL-YUV	F28	0~7	6	FIX	
COL-AV (OFFSET)	F29	-31~0~+31	+10	*FIX	**BUS SET UP**
COL-P (OFFSET)	F30	-30~0~+31	0	FIX	
COL-S (OFFSET)	F31	-31~0~+31	+9	FIX	
COL-N4 (OFFSET)	F32	-31~0~+31	-8	FIX	
COL-N3 (OFFSET)	F33	-31~0~+31	-7	FIX	
COL-ADJ (OFFSET)	F34	-31~0~+31	0	*FIX	**BUS SET UP**
SHP-AV (OFFSET)	F35	-31~0~+31	+5	FIX	
SHP-YUV (OFFSET)	F36	-31~0~+31	0	FIX	
SHP-P (OFFSET)	F37	-31~0~+31	0	FIX	
SHP-S (OFFSET)	F38	-31~0~+31	-5	FIX	
SHP-N4 (OFFSET)	F39	-31~0~+31	0	FIX	
SHP-N3 (OFFSET)	F40	-31~0~+31	0	FIX	
TINT-AV (OFFSET)	F41	-63~0~+63	0	*FIX	**BUS SET UP**
TINT-ADJ (OFFSET)	F42	-63~0~+63	0	*FIX	**BUS SET UP**
TINT-YUV-ADJ (OFFSET)	F43	-63~0~+63	0	FIX	
R-R (OFFSET)	F44	-63~0~+63	0	FIX	
B-R (OFFSET)	F45	-63~0~+63	-9	FIX	
R-B (OFFSET)	F46	-63~0~+63	-6	FIX	
B-B (OFFSET)	F47	-63~0~+63	+8	FIX	
DT	F48	0/1	0	FIX	
DT-P	F49	0/1	0	FIX	
DT-S	F50	0/1	1	FIX	
DT-N4	F51	0/1	0	FIX	
DT-N3	F52	0/1	0	FIX	
TRAP	F53	0~3	2	FIX	
TRAP-P	F54	0~3	2	FIX	
TRAP-S	F55	0~3	2	FIX	
TRAP-N4	F56	0~3	2	FIX	
TRAP-N3	F57	0~3	2	FIX	

SETTING MODE (SECOND STAGE)

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
1W-TV	F58	0/1	0	FIX	
1W-AV	F59	0/1	1	FIX	
V-FREE (NO SYNC)	F60	0/1	0	FIX	
AFC2 (NO SYNC)	F61	0/1	0	FIX	
GAMMA	F62	0~3	0	FIX	
BS-D/C	F63	0~15	10	FIX	
BS-GAIN	F64	0/1	0	FIX	
OM-DET	F65	0/1	0	FIX	
SL-TV	F66	0~7	2	FIX	
SL-AV	F67	0~7	4	FIX	
SL-YUV	F68	0~7	4	FIX	
VD2/VD1/AS/FBP-TV	F69	0~15	6	FIX	
VD2/VD1/AS/FBP-AV	F70	0~15	14	FIX	
VD2/VD1/AS/FBP-YUV	F71	0~15	14	FIX	
VDL	F72	0~3	0	FIX	
UDL	F73	0~3	0	FIX	
AUTO-SCM-KIL-TV	F74	0~3	1	FIX	
SCM-YDL	F75	0/1	0	FIX	
SECAM-BGP	F76	0~3	0	FIX	
N45	F77	0/1	0	FIX	
DL-REV	F78	0/1	0	FIX	
DL-OUT	F79	0/1	0	FIX	
TXT-POS-H (TELETEXT)	F80	0~63	30	FIX	
TXT-POS-V (TELETEXT)	F81	0~63	34	FIX	
OSD-POS	F82	0~127	9	FIX	
CP	F83	0/1	1	FIX	
SMALL-SURR (S-CTRL)	F84	0/1	0	FIX	
SUB-BASS (S-CTRL)	F85	0~7	6	*FIX	**BUS SET UP**
SUB-TREB (S-CTRL)	F86	0~7	0	*FIX	**BUS SET UP**
AGC-ADJ (S-CTRL)	F87	0~4	0	*FIX	**BUS SET UP**
AGC-SW-OFF (NICAM)	F88	0(dis)/1(ena)	1	FIX	
AGC-GAIN-ADJ (NICAM)	F89	0~31	16	FIX	
FM-LEVEL-ADJ (NICAM)	F90	-15~0~+15	0	FIX	
IGR-LEVEL-ADJ (NICAM)	F91	-15~0~+15	+1	FIX	
NICAM-BG-LVL-ADJ (NICAM)	F92	-15~0~+15	-2	FIX	
NICAM-I-LVL-ADJ (NICAM)	F93	-15~0~+15	+3	FIX	
NICAM-DK-LVL-ADJ (NICAM)	F94	-15~0~+15	-1	FIX	
NICAM-LOW-ERR-LIM (NICAM)	F95	0~255	35	FIX	
NICAM-UPP-ERR-LIM (NICAM)	F96	0~255	70	FIX	
IGR-GAIN-ADJ (IGR)	F97	-6~0~+7	0	FIX	
FM-ID-SPEED (NICAM)	F98	0~3	1	FIX	
NICAM-AUTO-MUTE	F99	0/1	0	FIX	
ANA-OSD	F100	0(Dig)/1(Ana)	0	FIX	
AUTO-SCM-KIL-AV-YUV	F101	0~3	1	FIX	
AFC1-GAIN-TV	F102	0~3	0	FIX	
AFC1-GAIN-AV	F103	0~3	3	FIX	
AFC1-GAIN-YUV	F104	0~3	3	FIX	
CON-REDUCE	F105	0(0%)~1(25%)~2(50%)	0	FIX	
TAKE-OFF-TV	F106	0/1	1	FIX	
TAKE-OFF-AV	F107	0/1	0	FIX	
TAKE-OFF-YUV	F108	0/1	0	FIX	
C-ANGLE (103 DEG/ 95 DEG)	F109	0 (103deg) / 1 (95deg)	1	FIX	
STD-BY-WO-BRIGHT	F110	0~255	255	*FIX	**BUS SET UP**
AC-FAIL-WO-BRIGHT	F111	0~255	255	FIX	
FORCED-SCM-KIL-TV	F112	0~3	2	FIX	
FORCED-SCM-KIL-AV-YUV	F113	0~3	2	FIX	

OPTION MODE (FOURTH STAGE)

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	REMARK
***HOTEL MODE	001	0 (0FF) / 1 (0N)	0	OPTION SET UP
***HTL-POS	002	0~99,—	—	OPTION SET UP
***HTL-VOL	003	0~60,—	—	OPTION SET UP
VIF	004	0 (38.0) / 1 (38.9)	1	OPTION SET UP
SECAM	005	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
N443(RF)	006	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
N358(RF)	007	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
FORCE-COL	008	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
S-SYS	009	1(BG ONLY)~15(ALL)	15	OPTION SET UP
AV	010	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
AV2	011	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
YUV	012	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
S-CTRL	013	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
NICAM	014	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
A2	015	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
TELETEXT	016	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
BILLINGUAL	017	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
LANGUAGE	018	1~255	65	OPTION SET UP
SEARCH-SPEED	019	1(350)~2(450)~3(550)~4(650)~5(750)	3	OPTION SET UP
R/C-MENU	020	0 (ENABLE) / 1 (DISABLE)	0	OPTION SET UP
LED-CONT	021	0 (ONE LED) / 1 (TWO LED)	0	OPTION SET UP

*** HOTEL MODE
OPERATION OF HOTEL MODE:
WHEN CHANGE SERVICE DATA 001 TO 1, HOTEL MODE IS ON
WHEN HOTEL MODE IS ON,
1. Max volume data is determined by option setting HTL-VOL (003)
2. Channel position after POWER ON is determined by option setting HOTEL-POS (002) (if option setting HOTEL-POS is not set, processing is according to last position data).
3. User data updates of EEPROM regarding the video and audio control is not allowed.
4. Preset mode is disable.
5. CH SETTING menu is not available.

ADJ ITEM: BUS SET UP (1ST & 2ND STAGE SERVICE DATA)

SERVICE ITEMS		DATA	SERVICE ITEMS		DATA
F27	YDL-AV-N3	7	F29	COL-AV (OFFSET)	0
F85	SUB-BASS	3	F34	COL-ADJ (OFFSET)	5
F86	SUB-TREB	3	F41	TINT-AV (OFFSET)	3
F87	AGC-ADJ	3	F42	TINT-ADJ (OFFSET)	-8
F110	STANDBY-WO-BRIGHT	100	V09	SUB-COLOR-YUV	105

ADJ ITEM: OPTION SET UP (4TH STAGE SERVICE DATA)

SERVICE ITEMS			DATA	SERVICE ITEMS			DATA
001	HTL MODE	0 (OFF) / 1 (ON)	0	012	YUV	0 (DISABLE) / 1 (ENABLE)	1
002	HTL-POS	0~99, —	—	013	S-CTRL	0 (DISABLE) / 1 (ENABLE)	1
003	HTL-VOL	0~60, —	—	014	NICAM	0 (DISABLE) / 1 (ENABLE)	0
004	VIF	0 (38.0) / 1 (38.9)	1	015	A2	0 (DISABLE) / 1 (ENABLE)	0
005	SECAM	0 (DISABLE) / 1 (ENABLE)	0	016	TEXT	0 (DISABLE) / 1 (ENABLE)	0
006	N443(RF)	0 (DISABLE) / 1 (ENABLE)	0	017	BIL	0 (DISABLE) / 1 (ENABLE)	1
007	N358(RF)	0 (DISABLE) / 1 (ENABLE)	0	018	LANG	1~255	65
008	FORCE-COL	0 (DISABLE) / 1 (ENABLE)	0	019	SERCH-SP	1(350)~2(450)~3(550)~4(650)~5(750)	3
009	S-SYS	1 (BG ONLY)~15 (ALL)	1	020	R/C MENU	0 (ENABLE) / 1 (DISABLE)	0
010	AV	0 (DISABLE) / 1 (ENABLE)	1	021	LED-CONT	0 (ONE LED) / 1 (TWO LED)	0
011	AV2	0 (DISABLE) / 1 (ENABLE)	1				

1.) Please set the MCL to MCL4 as follows.
2.) After set the MCL , please set the **INITIAL SETTING** to INITIAL9.
INITIAL9: For Thai (All Channel Sound System are set to B/G)

MCL4 (HEX D5)		
CH-NO	Fv (MHz)	SOUND SYS
0		
1	55.25	B/G
2	175.25	B/G
3	189.25	B/G
4	203.25	B/G
5	217.25	B/G
6	535.25	B/G
7		
8		
9		
10		
11	48.25	B/G
12	62.25	B/G
13	196.25	B/G
14	210.25	B/G
15	224.25	B/G
16	471.25	B/G
17	855.25	B/G
18		
19		
20		
21	223.95	B/G
22	224.55	B/G
23	223.85	B/G
24	224.65	B/G
25	223.75	B/G
26	224.75	B/G
27		
28		
29		
30		
31	91.25	M
32	103.25	M
33	171.25	M
34	183.25	M
35	193.25	M
36	205.25	M
37	217.25	M
38	621.25	M
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*NOTE: PLL DATA OF ABOVE FREQ SHOULD TAKE THE ACCOUNT OF PIF SETTING IN SERVICE OPTION 004 (VIF) BEFORE STORING INTO EEPROM.

SHIPPING SETTING & CHECKING

(1)The following default data has been factory-set for the E2PROM follow by INITIAL DATA selected.

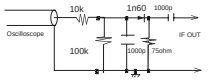
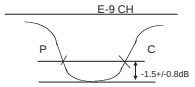
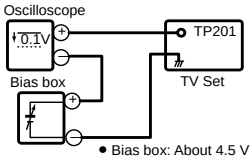
ITEMS	DATA SETTING
	21YF30
LAST POWER	ON
LAST TV/AV MODE	TV MODE
LAST POSITION	CH 1
FLASHBACK CHANNEL	CH 1
FAVOURITE CH A	CH 10
FAVOURITE CH B	CH 20
FAVOURITE CH C	CH 30
FAVOURITE CH D	CH 40
1/2 DIGIT ENTRY	2 DIGIT ENTRY
VOLUME	0 (Min)
BLUE BACK	OFF
OFF TIMER	—:—
ON TIMER	—:—
ON TIMER POSITION	—
ON TIMER VOLUME	—
REMINDER	—:—
AFT	ALL CH ON
COLOR SYSTEM	ALL CH AUTO
SKIP	ALL CH OFF
NICAM ON/OFF	N/A
NICAM STEREO MODE	N/A
NICAM BILINGUAL MODE	N/A
NICAM MONO MODE	N/A
A2 ON/OFF	N/A
A2 STEREO MODE	N/A
A2 BIL MODE	N/A
CONTRAST	60
COLOR	0
BRIGHTNESS	0
TINT	0
SHARPNESS	0
WHITE TEMP	0
SURROUND	OFF
TREBLE	0
BASS	0
BALANCE	0 (CENTER)

*Note: N/A - not Applicable

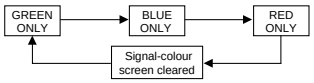
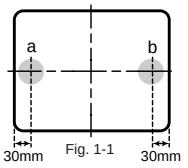
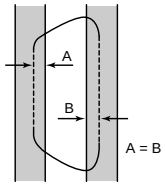
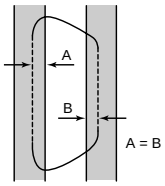
INITIAL	LANGUAGE	SOUND SYSTEM
9 (77 HEX)	THAI	B/G

ADJUSTMENT PRECAUTION:Make sure TV Set in "NORMAL CONDITION" before switch to Service Mode for Adjustment.

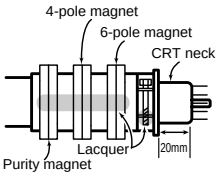
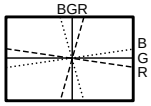
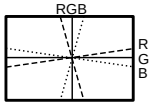
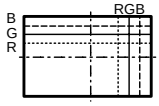
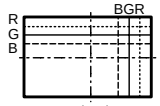
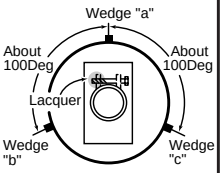
PIF ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	Tuner IFT (PRESET)	1. Get the tuner ready to receive the CH. E - 9 signal,but with no signal input. Adjust the PLL data. 2. Connect the sweep generator's output cable to the tuner antenna. (RF SWEEP) 3. Adjust the sweep generator's to 80dBμV. 4. Connect the response lead (use LOW IMPEDANCE probe with wave detector ; see Fig.1) to the tuner's IF output terminal. (This terminal must have the probe alone connected). 5. Set the RF AGC to 0 - 6 V with no saturation with the waveform. 6. Adjust the tuner IF coil to obtain the waveform as shown in Fig. 2. **Note: Be sure to keep the tuner cover in position during this adjustment.**	 Fig.1  Fig.2
2	RF-AGC TAKE OVER POINT ADJUSTMENT (I^2C BUS CONTROL) (AUTO & MANUAL ADJ)	1. Receive "PAL COLOUR BAR" signal. ● Signal Strength: 56 ± 1 dBμV (75 ohm open) 2. Connect the oscilloscope to TP201 (Tuner's AGC Terminal) as shown in Fig. 3-1.  ● Bias box: About 4.5 V Fig. 3-1 3. Call "V01" mode in service mode. Adjust the "V01" bus data to obtain the Tuner output pin drop 0.1~1.0V below maximum voltage. 4. Change the antenna input signal to 63~67dBμV, and make sure there is no noise. 5. Turn up the input signal to 90~95 dBμV to be sure that there is no cross modulation beat.	*** for Auto ADJ** 1) Receive "PAL COLOR BAR" signal. signal strength: 56 ± 1dBμV(75 ohm open) 1) Go to service mode. 2) Go to service data V01, press R/C to operateauto key (Hex C1) and confirm the 'OK' display on the screen. 3) If appear NG, increase data some step and pls repeat step 2 again. 4) proceed step 4 & 5 in manual mode.

PURITY ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**PURITY ADJ.**	1. Receive the GREEN-ONLY signal. Adjust the beam current to ~700 µ 2. Degauss the CRT enough with the degausing coil. Note: Follow the Job Instruction Sheet to adjust the magnetic field. Vertical Bv: +0.010 mT (0.10 gauss) Horizontal Bh: +0.040 mT (0.40 gauss) 3. Maintain the purity magnet at the zero magnetic field and keep the static convergence roughly adjusted. 4. Observe the points a, b as shown in Fig. 1-1 through the microscope. Adjust the landings to A rank requirement. 5. Orient the raster rotation to 0 eastward. 6. Tighten up the deflection coil screws. ● Tightening torque: 108 N ± 20 N (11 kgf ± 2 kgf) 7. Make sure the CRT corners landing meet the A rank requirements. If not, stick the magnet sheet to correct it. Note: This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 700 µA. Note: Set the service mode by JA304 & JA307 (short) then press factory process R/C RGB key to change to RGB mono colour mode. * For the following colours press R/C RGB(Hex 7E) key to change. 	 Fig. 1-1  Fig. 1-2 Rank "A" (on the right of CRT)  Fig. 1-3 Rank "A" (on the left of CRT) * Press R/C RGB key for 1 second in NORMAL MODE, the colour will change to RGB mono colour mode.

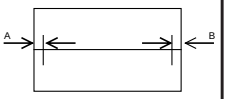
CONVERGENCE ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**CONVERGENCE ADJ. (To be done after the purity adjustment.)**	1. Receive the "Crosshatch Pattern" signal. 2. Using the remote controller, call NORMAL mode. **Static convergence** 1. Turn the 4-pole magnet to a proper opening angle in order to superpose the blue and red colours. 2. Turn the 6-pole magnet to a proper opening angle in order to superpose the green colour over the blue and red colours. **Dynamic convergence** 1. Adjust the convergence on the fringes of the screen in the following steps. a) Fig. a: Drive the wedge at point "a" and swing the deflection coil upward. b) Fig. b: Drive the wedge at point "b" and "c" and swing the deflection coil downward. c) Fig. c: Drive the "c" wedge deeper and swing the deflection coil rightward. d) Fig. d: Drive the "b" wedge deeper and swing the deflection coil leftward. 2. Fix all the wedges on the CRT and apply glass tape over them. 3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole, 6-pole magnets) and magnet unit lock screw. Finally received the Red-only and Blue-only signals to make sure there is no other colours on the screen. 	 Fig. a  Fig. b  Fig. c  Fig. d 

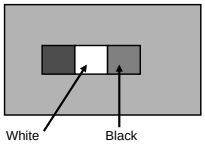
H-VCO, VIF-VCO & S-TRAP fo ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**H-VCO ADJ (I^2C BUS CONTROL) (AUTO & MANUAL ADJ)**	**(MANUAL ADJ)** 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data **V03**. 3) Connect oscilloscope to **IC801 pin11**, adj **V03** until freq become **15.625** ± **0.15 KHz** **(Auto Adj)** 1) In No signal (RASTER) condition. 2) Go to service mode. 3) Choose service data **V03**, by pressing R/C **Auto (Hex C1)** key, OSD will appear "OK" at screen. 4) If appear "NG" pls repeat step 3.	
2	**VIF-VCO ADJ (I^2C BUS CONTROL) (AUTO & MANUAL ADJ)**	**(Manual ADJ)** 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data **V02**. 3) Connect oscilloscope to **IC801 pin2**, adj **V02** until voltage become **2.5** ± **1 V**. **(Auto Adj)** 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data **V02.** 3) Press the R/C **Auto (Hex C1)** key, OSD will appear "OK" at screen. 4) If appear "NG" pls repeat step 3.	
3	**S-TRAP fo ADJ (I^2C BUS CONTROL) (AUTO & MANUAL ADJ)**	**(Manual ADJ)** 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data **V21**. 3) Connect oscilloscope to **TP 801,** adj **V21** until voltage become **Min** (below 5 V). 4) After that pls adj service data **V20 & V24 same as "V21", V22 to "V21-1", V23 to "V21+2"**. **(Auto Adj)** 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data **V21**. 3) Press the R/C **Auto (Hex C1)** key, OSD will appear "OK" at screen. 4) If appear "NG" pls repeat step 3.	

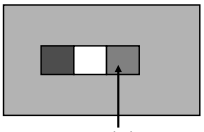
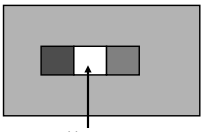
HORIZONTAL, VERTICAL, DEFLECTION LOOP and FOCUS ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**H-SHIFT (I^2C BUS CONTROL) (to be done after purity adj)**	1) Receive Monoscope Pattern Signal (PAL 50 Hz) 2) Choose the service data **V13**. 3) Adjust the **V13** bus data to have a balance position to spec of **A=B** (as attach drawing) 4) If cannot make it to **A=B**, adjust from the best point so that **B** slightly smaller than **A**.	
2	**V-SHIFT (I^2C BUS CONTROL) (to be done after purity adj)**	1) Receive Monoscope Pattern Signal (PAL 50 Hz) 2) Choose the service data **V12**. 3) Adjust **V12** bus data to have a most acceptable vertical position, the monoscope pattern should be **Balance** in vertical position.	
3	**V-SHIFT (I^2C BUS CONTROL) (to be done after purity, V-shift adj)**	1) Receive Monoscope Pattern Signal (PAL 50 Hz) 2) Choose the service data **V11**. 3) Adjust **V11** bus data until the overscan become **10** ± **2.5 %** **Caution1: Pls aging TV more than 10 minutes before adjustment.** **Caution2: for H-shift & V-shift & V-size adj, after adj pls switch to Monoscope pattern signal (NTSC 60 Hz) to confirm all positions are the same.**	
4	**SUB-SHARPNESS**	1) Confirm Service data **V08** is **43**.	
5	**Focus**	1) Receive the "Monoscope Pattern" signal. 2) Press R/C to set Picture NORMAL condition. 3) Adjust the focus control to get the best focusing.	

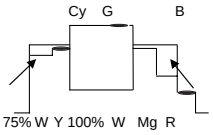
SCREEN, WHITE BALANCE, SUB-BRIGHTNESS & SUB-CONTRAST (1) ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**SCREEN ADJUSTMENT (I²C BUS CONTROL)**	1) In window pattern signal condition. 2) Go to service mode, then select V00. 3) By pressing R/C key **S-Mute(Hex E8)**, **R-D** auto switch to **63**, **B-D** auto switch to **63**, **R-C** auto switch to **127**, **G-C** auto switch to **127**, **B-C** auto switch to **127**, **Sub-brightness V06** auto switch to **127**. Y-mute & Vertical off, screen will be in **vertical cut-off** condition. 4) Adjust the Screen so that cut-off line appear in low bright, then judge that whether the cut-off line appear in Red or Green or Blue color, in this condition between R-C & G-C & B-C, fix the data of the **color appear in cut-off line** and **adjust the other two cut-off data (Note 1) so that cut-off line color become white.** 5)Turn the screen VR of FBT so that cut-off line just **disappear** and use R/C by pressing key **S-Mute (Hex E8)** to **disable** the Y-mute & V-cut so that picture appear in normal mode.	**NOTE 1:** R-CUTOFF (R-C) UP R/C key "1" (HEX 80) R-CUTOFF (R-C) DOWN R/C key "4" (HEX 20) G-CUTOFF (G-C) UP R/C key "2" (HEX 40) G-CUTOFF (G-C) DOWN R/C key "5" (HEX A0) B-CUTOFF (B-C) UP R/C key "3" (HEX C0) B-CUTOFF (B-C) DOWN R/C key "6" (HEX 60) R-DRIVE (R-D) UP R/C key "7" (HEX E0) R-DRIVE (R-D) DOWN R/C key "FLASHBACK" (HEX E4) B-DRIVE (B-D) UP R/C key "8" (HEX 10) B-DRIVE (B-D) DOWN R/C key "0" (HEX 50)
2	**WHITE BALANCE ADJ (to be done after screen adj) (I²C BUS CONTROL)**	**1) WHITE (HIGH BEAM)** (In Window Pattern Signal) First use Minolta Color Analyzer CA100, let the gun point at **Black** position (as drawing attach), adjust **V06** until **BRIGHTNESS Y** become **5 cd/m2**, then let the gun point at **White** position (as drawing attach), adjust **V04** until **CONTRAST Y** become **200 cd/m2**, adjust the **R-D** & **B-D** until the axis of color temperature become. X=272, Y=275 12300 K **2) BLACK (LOW BEAM)** (In Window Pattern Signal) Let the gun point at **Black** position, if the color temperature data shift away from the data adjusted in **step 1**, adjust **R-C, G-C & B-C but between them, first color appears in Screen adj item 1)-4 is fixed**, adj the other two so that to obtain the similar axis as above. ****Repeat step 1 & 2 to get a regulated position.**	 WINDOW PATTERN SIGNAL

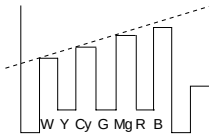
SCREEN, WHITE BALANCE, SUB-BRIGHTNESS & SUB-CONTRAST (2) ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
3	**SUB-BRIGHTNESS (to be done after screen, white balance adj) (I²C BUS CONTROL)**	1) In window pattern signal condition. 2) Using Minolta Color Analyzer CA-100, let the gun point at **Black** position (as white balance adj) attach drawing), adjust **V04** Bus data until **LUMINANCE Y = 3** ± **0.5 cd/m2**.	 WINDOW PATTERN SIGNAL
4	**SUB-CONTRAST (to be done after screen, white balance adj, sub-brightness adj) (I²C BUS CONTROL)**	1) In Window Pattern Signal condition. 2) Using Minolta Color Analyzer CA-100, let the gun point at White position (as attach drawing), adjust **V04** Bus data until **LUMINANCE Y = 200** ± **10 cd/m2**.	 WINDOW PATTERN SIGNAL
5	**MAX Beam Check**	1) Receive the "Monoscope Pattern" signal. 2) Press R/C to set Picture NORMAL condition. 3) Connect the DC miliammeter between TP 603 (+) & TP 602 (-). (Full Scale: 3mA Range) 4) Beam current must be within **1100** ± **100μA**.	

PAL CHROMA ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**SUB COLOUR (I^2C BUS CONTROL) (to be done aftersub-picture, sub-tint adj)**	1) Receive the “PAL Color Bar” signal. 2) Press R/C to set Picture Normal condition. 3) Connect the oscilloscope to R-Amp Transistor Base**(TP 851)**. Range : 100 mV/Div (AC) (Using 10:1 Probe) Sweep Time : 10 μ sec/Div 4) Using the R/C call **V05** in SERVICE mode. Adjust **V05** bus data, so that the 75% White & Red portions of PAL Color Bar be at the **same level** shown as Fig 1-1. 5) Clear the SERVICE mode.	 Fig. 1-1

NTSC CHROMA ADJUSTMENT

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**SUB-TINT (I^2C BUS CONTROL)**	1) Receive the "NTSC3.58 Color Bar" signal thru AV in. 2) Connect the oscilloscope to B-Amp Transistor Base **(TP853)**. ● Range : 100mV/Div. (AC)(Use Probe 10:1) ● Sweep time : 10 μsec/Div. 3) In Service mode, go to **V07**, then press **R/C Y-mute (Hex E4) or FLASHBACK** key. 4) Call the "**V07**" mode in service mode. Adjust the "**V07**" bus data to obtain the waveform shown as Fig. 1-1. 5) Disable **Y-Mute** by pressing **key(Hex E4) or FLASHBACK** key, then Clear the SERVICE mode.	 Fig. 1-1

PROTECTOR OPERATION CHECKING

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**BEAM PROTECTOR**	1) Receive "Monoscope Pattern" signal. 2) Set CONTRAST MAX. 3) Set BRIGHT MAX. 4) During the Collector & Emitter of Q853/4/5 short, make sure the protector ON and switch to standby mode.	* Select one of Q853/4/5 to do each short.
2	**H, V PROTECTOR**	1) Receive "Monoscope Pattern" signal. 2) Connect output of Bias Box to D602 cathode (C602 positive). 3) Set voltage of Bias Box to 18V and make sure the protector is not working. 4) Set voltage of Bias Box to 23.5V, and make sure the protector is working.	
3	**OTHER PROTECTOR**	1) Once finish rectified Electrolytic Capacitor short testing in +B line, check all possible damaged components on +B line. (Use random selected set for inspection)	

A/V INPUT, OUTPUT & COMPONENT IN CHECKING

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**VIDEO AND AUDIO OUTPUT CHECK**	1) Receive the "PAL Color Bar" signal (100% White Color Bar, Sound 400 Hz 100% Mod.) 2) Terminate the Video output with a 75 ohm impedance. Make sure the output is as specified **(1.0 Vp-p ±3 dB)**. 3) Terminate the Audio output with a 75 ohm impedance. Make sure the output is as specified **(1.2 Vp-p ±3 dB)**.	
2	**VIDEO AND AUDIO INPUT CHECK**	1) Using the TV/VIDEO key on the remote controller, make sure that the modes change in order of TV, AV1, AV2 & TV again and the video & audio output are according to the input terminal for each mode.	
3	**COMPONENT IN CHECK**	1) Connect YUV & Audio signal to Component In terminal and Audio terminal. 2) Using the TV/VIDEO key on the remote controller, press it until the mode change to COMPONENT, confirm output is appear.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**CONTRAST key**	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select CONTRAST. 3) Press Volume Up/Down key to check whether the CONTRAST effect is OK or not.	
2	**COLOUR key**	1) Receive "Color Bar" signal. 2) Set MENU, then go into PICTURE mode to select COLOUR. 3) Press Volume Up/Down key to check whether the COLOUR effect is OK or not.	
3	**BRIGHTNESS key**	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select BRIGHTNESS. 3) Press Volume Up/Down key to check whether the BRIGHTNESS effect is OK or not.	
4	**TINT key**	1) Receive the "NTSC Colour Bar" signal thru AV in. 2) Set MENU, then go into PICTURE mode to select TINT. 3) Press Volume Up/Down key to check TINT, UP for GREEN direction and DOWN for PURPLE direction whether is OK or not.	
5	**SHARPNESS Key**	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select SHARPNESS. 3) Press Volume Up/Down key to check whether the SHARPNESS effect is OK or not.	
6	**CH DISPLAY COLOUR**	1) All Ch (1~99) will have an OSD display of the channel number in green colour under AFT ON condition.	
7	**NORMAL Key**	1) Once in PICTURE Mode, and the NORMAL key is pressed, all the settings will be present to normal setting. (Normal setting value for every mode). ● CONTRAST : MAX ● COLOUR : CENTER ● BRIGHTNESS : CENTER ● TINT : CENTER ● SHARPNESS : CENTER	Notes:If nothing is displayed means contrast, colour, brightness, tint, sharpness are all in normal setting.
8	**WHITE TEMP**	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select WHITE TEMP. 3) Press Volume Up/Down key to check WHITE TEMP function. The back ground will change to (shift right) bluish and (shift left) reddish.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO) CONTINUED

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
9	**COLOUR SYSTEM**	1) Receive the "PAL COLOUR BAR" signal, press MENU, choose CH-SETTING to select COLOUR modes except PAL, check the colour is not working. Then, select the "PAL" mode. Check again its colour so that it is working properly. 2) Receive "NTSC 3.58 COLOUR BAR" signal thru AV, press MENU, choose CH-SETTING to select COLOR modes except N358, check the COLOUR is not working properly. Then, select the N358 mode. Check again its colour so that it is working properly.	
10	**SURROUND**	1) Receive "music" sound signal. 2) Set MENU, then go into SOUND MENU to select SURROUND. 3)Press VOLUME UP/DOWN key to check SURROUND 1, 2 and OFF effect.	
11	**TREBLE**	1) Receive "music" sound signal. 2) Set MENU, then go into SOUND MENU to select TREBLE. 3) Press VOLUME UP/DOWN key to check whether the TREBLE effect is OK or not.	
12	**BASS**	1) Receive "music" sound signal. 2) Set MENU, then go into SOUND MENU to select BASS. 3) Press VOLUME UP/DOWN key to check whether the BASS effect is OK or not.	
13	**BALANCE**	1) Receive mono-tone signal. 2) Set MENU, then go into SOUND MENU to select BALANCE. 3) Press VOLUME UP/DOWN key to check whether the left to right BALANCE effect is OK or not.	
14	**SOUND SYSTEM**	1) Receive "PAL-B/G" signal, press MENU, choose CH-SETTING to make sure there is NO sound system selection and check the sound output is working properly.	
15	**NOISE MUTE CHECKING**	1) Receive "PAL COLOUR BAR" signal. 2) Turn up the volume control to maximum, make sure the sound is heard from the speakers. Then put the unit in no signal state. 3) Check the sound mute is effective. 4) Finally turn sound level of CTV to minimum.	
16	**OSD LANGUAGE QUANTITY CHECK**	Check OSD LANGUAGE quantity and type for respect mode.(THAI) MODEL / QUANTITY / ENGLISH / THAI ALL / 2 / O / O	

HEADPHONE JACK CHECKING

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**HEADPHONE OUTPUT CHECKING**	1) Receive PAL COLOUR BAR with SOUND 400Hz, 100% MODULATION (±50kHz Dev). 2) Maximum volume, and check the headphone output with 400Hz sound and no sound out from speaker.	

BILINGUAL FUNCTION CHECKING (FOR BILINGUAL MODELS ONLY)

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**BILINGUAL FUNCTION CHECKING**	1) Receive bilingual channel. 2) Press R/C "MPX" button, and the sound will change from SOUND 1 to SOUND 2.	

SHOCK TEST CHECKING

No.	Adjustment point	Adjustment procedure/conditions	Waveform and others
1	**SHOCK TEST**	1) Hit at the top of TV set for two time. 2) Check TV set not damage and TV operation operate correctly.	

MEMORY MAP

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
00	EEPROM INITIALIZATION JUDGEMENT BYTE-0								8A	00-FF							
01	EEPROM INITIALIZATION JUDGEMENT BYTE-1								84	00-FF							
02	EEPROM INITIALIZATION JUDGEMENT BYTE-2								82	00-FF							
03	EEPROM INITIALIZATION JUDGEMENT BYTE-3								89	00-FF							
04	ROM VERSION								00	00-FF							
05	SOFTWARE VERSION (HIGH BYTE)								01	00-FF							
06	SOFTWARE VERSION (LOW BYTE)								0D	00-FF							
07																	
08	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 0
09	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 1
0B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 2
0D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 3
0F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
10	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 4
11	TUNING FREQUENCY (HIGH BYTE)									00-FF							
12	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 5
13	TUNING FREQUENCY (HIGH BYTE)									00-FF							
14	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 6
15	TUNING FREQUENCY (HIGH BYTE)									00-FF							
16	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 7
17	TUNING FREQUENCY (HIGH BYTE)									00-FF							
18	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 8
19	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 9
1B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 10
1D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 11
1F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
20	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 12
21	TUNING FREQUENCY (HIGH BYTE)									00-FF							
22	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 13
23	TUNING FREQUENCY (HIGH BYTE)									00-FF							
24	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 14
25	TUNING FREQUENCY (HIGH BYTE)									00-FF							
26	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 15
27	TUNING FREQUENCY (HIGH BYTE)									00-FF							
28	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 16
29	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 17
2B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 18
2D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 19
2F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
30	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 20
31	TUNING FREQUENCY (HIGH BYTE)									00-FF							
32	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 21
33	TUNING FREQUENCY (HIGH BYTE)									00-FF							
34	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 22
35	TUNING FREQUENCY (HIGH BYTE)									00-FF							
36	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 23
37	TUNING FREQUENCY (HIGH BYTE)									00-FF							
38	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 24
39	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 25
3B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 26
3D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 27
3F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
40	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 28
41	TUNING FREQUENCY (HIGH BYTE)									00-FF							
42	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 29
43	TUNING FREQUENCY (HIGH BYTE)									00-FF							
44	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 30
45	TUNING FREQUENCY (HIGH BYTE)									00-FF							
46	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 31
47	TUNING FREQUENCY (HIGH BYTE)									00-FF							
48	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 32
49	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 33
4B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 34
4D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 35
4F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
50	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 36
51	TUNING FREQUENCY (HIGH BYTE)									00-FF							
52	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 37
53	TUNING FREQUENCY (HIGH BYTE)									00-FF							
54	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 38
55	TUNING FREQUENCY (HIGH BYTE)									00-FF							
56	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 39
57	TUNING FREQUENCY (HIGH BYTE)									00-FF							
58	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 40
59	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 41
5B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 42
5D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 43
5F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
60	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 44
61	TUNING FREQUENCY (HIGH BYTE)									00-FF							
62	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 45
63	TUNING FREQUENCY (HIGH BYTE)									00-FF							
64	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 46
65	TUNING FREQUENCY (HIGH BYTE)									00-FF							
66	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 47
67	TUNING FREQUENCY (HIGH BYTE)									00-FF							
68	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 48
69	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 49
6B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 50
6D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 51
6F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
70	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 52
71	TUNING FREQUENCY (HIGH BYTE)									00-FF							
72	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 53
73	TUNING FREQUENCY (HIGH BYTE)									00-FF							
74	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 54
75	TUNING FREQUENCY (HIGH BYTE)									00-FF							
76	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 55
77	TUNING FREQUENCY (HIGH BYTE)									00-FF							
78	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 56
79	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 57
7B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 58
7D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 59
7F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA							MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
80	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 60
81	TUNING FREQUENCY (HIGH BYTE)									00-FF							
82	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 61
83	TUNING FREQUENCY (HIGH BYTE)									00-FF							
84	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 62
85	TUNING FREQUENCY (HIGH BYTE)									00-FF							
86	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 63
87	TUNING FREQUENCY (HIGH BYTE)									00-FF							
88	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 64
89	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 65
8B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 66
8D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 67
8F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
90	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 68
91	TUNING FREQUENCY (HIGH BYTE)									00-FF							
92	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 69
93	TUNING FREQUENCY (HIGH BYTE)									00-FF							
94	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 70
95	TUNING FREQUENCY (HIGH BYTE)									00-FF							
96	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 71
97	TUNING FREQUENCY (HIGH BYTE)									00-FF							
98	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 72
99	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 73
9B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 74
9D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 75
9F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 76
A1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 77
A3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 78
A5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 79
A7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 80
A9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 81
AB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 82
AD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 83
AF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 84
B1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 85
B3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 86
B5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 87
B7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 88
B9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 89
BB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 90
BD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 91
BF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
C0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 92
C1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 93
C3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 94
C5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 95
C7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 96
C9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 97
CB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 98
CD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 99
CF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
D0		FAVORITE CHANNEL 1							0A	00-65							POS 10
D1		FAVORITE CHANNEL 2							14	00-65							POS 20
D2		FAVORITE CHANNEL 3							1E	00-65							POS 30
D3		FAVORITE CHANNEL 4							28	00-65							POS 40
D4			LAST CONTRAST						3C	00-3C							
D5			LAST COLOUR						1E	00-3C							
D6			LAST BRIGHTNESS						1E	00-3C							
D7			LAST TINT						1E	00-3C							
D8			LAST SHARPNESS						1E	00-3C							
D9							LAST WHITE TEMP.		01	00-02							
DA							LAST SURROUND MODE		00	00-02							
DB			LAST TREBLE						1E	00-3C							
DC			LAST BASS						1E	00-3C							
DD			LAST BALANCE						1E	00-3C							
DE																	
DF																	
E0	POS 7	POS 6	POS 5	POS4	POS 3	POS 2	POS 1	POS 0	FF	00-FF							
E1	POS15	POS14	POS13	POS12	POS11	POS10	POS 9	POS 8	FF	00-FF							
E2	POS23	POS22	POS21	POS20	POS19	POS18	POS17	POS16	FF	00-FF							
E3	POS31	POS30	POS29	POS28	POS27	POS26	POS25	POS24	FF	00-FF							
E4	POS39	POS38	POS37	POS36	POS35	POS34	POS33	POS32	FF	00-FF							
E5	POS47	POS46	POS45	POS44	POS43	POS42	POS41	POS40	FF	00-FF							
E6	POS55	POS54	POS53	POS52	POS51	POS50	POS49	POS48	FF	00-FF							1= AFT ON, 0=AFT OFF
E7	POS63	POS62	POS61	POS60	POS59	POS58	POS57	POS56	FF	00-FF							
E8	POS71	POS70	POS69	POS68	POS67	POS66	POS65	POS64	FF	00-FF							
E9	POS79	POS78	POS77	POS76	POS75	POS74	POS73	POS72	FF	00-FF							
EA	POS87	POS86	POS85	POS84	POS83	POS82	POS81	POS80	FF	00-FF							
EB	POS95	POS94	POS93	POS92	POS91	POS90	POS89	POS88	FF	00-FF							
EC					POS99	POS98	POS97	POS96	FF	00-0F							
ED																	
EE	Blue Back	1/2 digit	TEXT			LANGUAGE			48	00-FF							
EF			LAST VOLUME						00	00-3C							
F0	POS 7	POS 6	POS 5	POS4	POS 3	POS 2	POS 1	POS 0	01	00-FF							
F1	POS15	POS14	POS13	POS12	POS11	POS10	POS 9	POS 8	00	00-FF							
F2	POS23	POS22	POS21	POS20	POS19	POS18	POS17	POS16	00	00-FF							
F3	POS31	POS30	POS29	POS28	POS27	POS26	POS25	POS24	00	00-FF							
F4	POS39	POS38	POS37	POS36	POS35	POS34	POS33	POS32	00	00-FF							
F5	POS47	POS46	POS45	POS44	POS43	POS42	POS41	POS40	00	00-FF							
F6	POS55	POS54	POS53	POS52	POS51	POS50	POS49	POS48	00	00-FF							1= SKIP ON, 0=SKIP OFF
F7	POS63	POS62	POS61	POS60	POS59	POS58	POS57	POS56	00	00-FF							
F8	POS71	POS70	POS69	POS68	POS67	POS66	POS65	POS64	00	00-FF							
F9	POS79	POS78	POS77	POS76	POS75	POS74	POS73	POS72	00	00-FF							
FA	POS87	POS86	POS85	POS84	POS83	POS82	POS81	POS80	00	00-FF							
FB	POS95	POS94	POS93	POS92	POS91	POS90	POS89	POS88	00	00-FF							
FC					POS99	POS98	POS97	POS96	00	00-0F							
FD	POWER								AA	AA(On), 55(Off)							
FE	ON TIMER VOLUME								FF	00-3C, FF							
FF	ON TIMER CHANNEL								FF	00-65, FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
100			S-SYSTEM (POS0)			C-SYSTEM (POS0)			00	00-34							
101			S-SYSTEM (POS1)			C-SYSTEM (POS1)			00	00-34							S-SYSTEM
102			S-SYSTEM (POS2)			C-SYSTEM (POS2)			00	00-34							0: B/G
103			S-SYSTEM (POS3)			C-SYSTEM (POS3)			00	00-34							1: I
104			S-SYSTEM (POS4)			C-SYSTEM (POS4)			00	00-34							2: D/K
105			S-SYSTEM (POS5)			C-SYSTEM (POS5)			00	00-34							3: M
106			S-SYSTEM (POS6)			C-SYSTEM (POS6)			00	00-34							
107			S-SYSTEM (POS7)			C-SYSTEM POS7)			00	00-34							C-SYSTEM
108			S-SYSTEM (POS8)			C-SYSTEM (POS8)			00	00-34							0: AUTO
109			S-SYSTEM (POS9)			C-SYSTEM (POS9)			00	00-34							1: PAL
10A			S-SYSTEM (POS10)			C-SYSTEM (POS10)			00	00-34							2:SECAM
10B			S-SYSTEM (POS11)			C-SYSTEM (POS11)			00	00-34							3: N443
10C			S-SYSTEM (POS12)			C-SYSTEM (POS12)			00	00-34							4:N358
10D			S-SYSTEM (POS13)			C-SYSTEM (POS13)			00	00-34							
10E			S-SYSTEM (POS14)			C-SYSTEM (POS14)			00	00-34							
10F			S-SYSTEM (POS15)			C-SYSTEM (POS15)			00	00-34							
110			S-SYSTEM (POS16)			C-SYSTEM (POS16)			00	00-34							
111			S-SYSTEM (POS17)			C-SYSTEM (POS17)			00	00-34							
112			S-SYSTEM (POS18)			C-SYSTEM (POS18)			00	00-34							
113			S-SYSTEM (POS19)			C-SYSTEM (POS19)			00	00-34							
114			S-SYSTEM (POS20)			C-SYSTEM (POS20)			00	00-34							
115			S-SYSTEM (POS21)			C-SYSTEM (POS21)			00	00-34							
116			S-SYSTEM (POS22)			C-SYSTEM (POS22)			00	00-34							
117			S-SYSTEM (POS23)			C-SYSTEM (POS23)			00	00-34							
118			S-SYSTEM (POS24)			C-SYSTEM (POS24)			00	00-34							
119			S-SYSTEM (POS25)			C-SYSTEM (POS25)			00	00-34							
11A			S-SYSTEM (POS26)			C-SYSTEM (POS26)			00	00-34							
11B			S-SYSTEM (POS27)			C-SYSTEM (POS27)			00	00-34							
11C			S-SYSTEM (POS28)			C-SYSTEM (POS28)			00	00-34							
11D			S-SYSTEM (POS29)			C-SYSTEM (POS29)			00	00-34							
11E			S-SYSTEM (POS30)			C-SYSTEM (POS30)			00	00-34							
11F			S-SYSTEM (POS31)			C-SYSTEM (POS31)			00	00-34							
120			S-SYSTEM (POS32)			C-SYSTEM (POS32)			00	00-34							
121			S-SYSTEM (POS33)			C-SYSTEM (POS33)			00	00-34							
122			S-SYSTEM (POS34)			C-SYSTEM (POS34)			00	00-34							
123			S-SYSTEM (POS35)			C-SYSTEM (POS35)			00	00-34							
124			S-SYSTEM (POS36)			C-SYSTEM (POS36)			00	00-34							
125			S-SYSTEM (POS37)			C-SYSTEM (POS37)			00	00-34							
126			S-SYSTEM (POS38)			C-SYSTEM (POS38)			00	00-34							
127			S-SYSTEM (POS39)			C-SYSTEM (POS39)			00	00-34							
128			S-SYSTEM (POS40)			C-SYSTEM (POS40)			00	00-34							
129			S-SYSTEM (POS41)			C-SYSTEM (POS41)			00	00-34							
12A			S-SYSTEM (POS42)			C-SYSTEM (POS42)			00	00-34							
12B			S-SYSTEM (POS43)			C-SYSTEM (POS43)			00	00-34							
12C			S-SYSTEM (POS44)			C-SYSTEM (POS44)			00	00-34							
12D			S-SYSTEM (POS45)			C-SYSTEM (POS45)			00	00-34							
12E			S-SYSTEM (POS46)			C-SYSTEM (POS46)			00	00-34							
12F			S-SYSTEM (POS47)			C-SYSTEM (POS47)			00	00-34							
130			S-SYSTEM (POS48)			C-SYSTEM (POS48)			00	00-34							
131			S-SYSTEM (POS49)			C-SYSTEM (POS49)			00	00-34							
132			S-SYSTEM (POS50)			C-SYSTEM (POS50)			00	00-34							
133			S-SYSTEM (POS51)			C-SYSTEM (POS51)			00	00-34							
134			S-SYSTEM (POS52)			C-SYSTEM (POS52)			00	00-34							
135			S-SYSTEM (POS53)			C-SYSTEM (POS53)			00	00-34							
136			S-SYSTEM (POS54)			C-SYSTEM (POS54)			00	00-34							
137			S-SYSTEM (POS55)			C-SYSTEM (POS55)			00	00-34							
138			S-SYSTEM (POS56)			C-SYSTEM (POS56)			00	00-34							
139			S-SYSTEM (POS57)			C-SYSTEM (POS57)			00	00-34							
13A			S-SYSTEM (POS58)			C-SYSTEM (POS58)			00	00-34							
13B			S-SYSTEM (POS59)			C-SYSTEM (POS59)			00	00-34							
13C			S-SYSTEM (POS60)			C-SYSTEM (POS60)			00	00-34							
13D			S-SYSTEM (POS61)			C-SYSTEM (POS61)			00	00-34							
13E			S-SYSTEM (POS62)			C-SYSTEM (POS62)			00	00-34							
13F			S-SYSTEM (POS63)			C-SYSTEM (POS63)			00	00-34							

MODEL								MODEL						
LETTER NO.								LETTER NO.						

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
140			S-SYSTEM (POS64)			C-SYSTEM (POS64)			00	00-34							
141			S-SYSTEM (POS65)			C-SYSTEM (POS65)			00	00-34							
142			S-SYSTEM (POS66)			C-SYSTEM (POS66)			00	00-34							
143			S-SYSTEM (POS67)			C-SYSTEM (POS67)			00	00-34							
144			S-SYSTEM (POS68)			C-SYSTEM (POS68)			00	00-34							
145			S-SYSTEM (POS69)			C-SYSTEM (POS69)			00	00-34							
146			S-SYSTEM (POS70)			C-SYSTEM (POS70)			00	00-34							
147			S-SYSTEM (POS71)			C-SYSTEM POS71)			00	00-34							
148			S-SYSTEM (POS72)			C-SYSTEM (POS72)			00	00-34							
149			S-SYSTEM (POS73)			C-SYSTEM (POS73)			00	00-34							
14A			S-SYSTEM (POS74)			C-SYSTEM (POS74)			00	00-34							
14B			S-SYSTEM (POS75)			C-SYSTEM (POS75)			00	00-34							
14C			S-SYSTEM (POS76)			C-SYSTEM (POS76)			00	00-34							
14D			S-SYSTEM (POS77)			C-SYSTEM (POS77)			00	00-34							
14E			S-SYSTEM (POS78)			C-SYSTEM (POS78)			00	00-34							
14F			S-SYSTEM (POS79)			C-SYSTEM (POS79)			00	00-34							
150			S-SYSTEM (POS80)			C-SYSTEM (POS80)			00	00-34							
151			S-SYSTEM (POS81)			C-SYSTEM (POS81)			00	00-34							
152			S-SYSTEM (POS82)			C-SYSTEM (POS82)			00	00-34							
153			S-SYSTEM (POS83)			C-SYSTEM (POS83)			00	00-34							
154			S-SYSTEM (POS84)			C-SYSTEM (POS84)			00	00-34							
155			S-SYSTEM (POS85)			C-SYSTEM (POS85)			00	00-34							
156			S-SYSTEM (POS86)			C-SYSTEM (POS86)			00	00-34							
157			S-SYSTEM (POS87)			C-SYSTEM (POS87)			00	00-34							
158			S-SYSTEM (POS88)			C-SYSTEM (POS88)			00	00-34							
159			S-SYSTEM (POS89)			C-SYSTEM (POS89)			00	00-34							
15A			S-SYSTEM (POS90)			C-SYSTEM (POS90)			00	00-34							
15B			S-SYSTEM (POS91)			C-SYSTEM (POS91)			00	00-34							
15C			S-SYSTEM (POS92)			C-SYSTEM (POS92)			00	00-34							
15D			S-SYSTEM (POS93)			C-SYSTEM (POS93)			00	00-34							
15E			S-SYSTEM (POS94)			C-SYSTEM (POS94)			00	00-34							
15F			S-SYSTEM (POS95)			C-SYSTEM (POS95)			00	00-34							
160			S-SYSTEM (POS96)			C-SYSTEM (POS96)			00	00-34							
161			S-SYSTEM (POS97)			C-SYSTEM (POS97)			00	00-34							
162			S-SYSTEM (POS98)			C-SYSTEM (POS98)			00	00-34							
163			S-SYSTEM (POS99)			C-SYSTEM (POS99)			00	00-34							
164		C-SYSTEM (AV2)				C-SYSTEM (AV1)			00	00-44							
165																	
166	SLV 1 (HIGH)								00	00-FF							
167	SLV 1 (LOW)								00	00-FF							
168	SLV 2 (HIGH)								00	00-FF							
169	SLV 2 (LOW)								00	00-FF							
16A	SLV 3 (HIGH)								00	00-FF							
16B	SLV 3 (LOW)								00	00-FF							
16C	SLV 4 (HIGH)								00	00-FF							
16D	SLV 4 (LOW)								00	00-FF							
16E	SLV 5 (HIGH)								00	00-FF							
16F	SLV 5 (LOW)								00	00-FF							
170	SLV 6 (HIGH)								00	00-FF							
171	SLV 6 (LOW)								00	00-FF							
172																	
173							TV/AV		00	0(TV), 1(AV1), 2(AV2)							
174		LAST CHANNEL POSITION							01	00-63							
175	FLASH BACK POSITION								01	00-FF							
176	ROM CORRECTION-1 ID									00-FF							
177	ROM CORRECTION-1 HIGH BYTE ADDRESS									00-FF							
178	ROM CORRECTION-1 LOW BYTE ADDRESS									00-FF							
179	ROM CORRECTION-1 DATA LENGTH									00-FF							
17A	ROM CORRECTION-1 CHECKSUM									00-FF							
17B	ROM CORRECTION-2 ID									00-FF							
17C	ROM CORRECTION-2 HIGH BYTE ADDRESS									00-FF							
17D	ROM CORRECTION-2 LOW BYTE ADDRESS									00-FF							
17E	ROM CORRECTION-2 DATA LENGTH									00-FF							
17F	ROM CORRECTION-2 CHECKSUM									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
180	ROM CORRECTION-1 CODE									00-FF							
181	ROM CORRECTION-1 CODE									00-FF							
182	ROM CORRECTION-1 CODE									00-FF							
183	ROM CORRECTION-1 CODE									00-FF							
184	ROM CORRECTION-1 CODE									00-FF							
185	ROM CORRECTION-1 CODE									00-FF							
186	ROM CORRECTION-1 CODE									00-FF							
187	ROM CORRECTION-1 CODE									00-FF							
188	ROM CORRECTION-1 CODE									00-FF							
189	ROM CORRECTION-1 CODE									00-FF							
18A	ROM CORRECTION-1 CODE									00-FF							
18B	ROM CORRECTION-1 CODE									00-FF							
18C	ROM CORRECTION-1 CODE									00-FF							
18D	ROM CORRECTION-1 CODE									00-FF							
18E	ROM CORRECTION-1 CODE									00-FF							
18F	ROM CORRECTION-1 CODE									00-FF							
190	ROM CORRECTION-1 CODE									00-FF							
191	ROM CORRECTION-1 CODE									00-FF							
192	ROM CORRECTION-1 CODE									00-FF							
193	ROM CORRECTION-1 CODE									00-FF							
194	ROM CORRECTION-1 CODE									00-FF							
195	ROM CORRECTION-1 CODE									00-FF							
196	ROM CORRECTION-1 CODE									00-FF							
197	ROM CORRECTION-1 CODE									00-FF							
198	ROM CORRECTION-1 CODE									00-FF							
199	ROM CORRECTION-1 CODE									00-FF							
19A	ROM CORRECTION-1 CODE									00-FF							
19B	ROM CORRECTION-1 CODE									00-FF							
19C	ROM CORRECTION-1 CODE									00-FF							
19D	ROM CORRECTION-1 CODE									00-FF							
19E	ROM CORRECTION-1 CODE									00-FF							
19F	ROM CORRECTION-1 CODE									00-FF							
1A0	ROM CORRECTION-2 CODE									00-FF							
1A1	ROM CORRECTION-2 CODE									00-FF							
1A2	ROM CORRECTION-2 CODE									00-FF							
1A3	ROM CORRECTION-2 CODE									00-FF							
1A4	ROM CORRECTION-2 CODE									00-FF							
1A5	ROM CORRECTION-2 CODE									00-FF							
1A6	ROM CORRECTION-2 CODE									00-FF							
1A7	ROM CORRECTION-2 CODE									00-FF							
1A8	ROM CORRECTION-2 CODE									00-FF							
1A9	ROM CORRECTION-2 CODE									00-FF							
1AA	ROM CORRECTION-2 CODE									00-FF							
1AB	ROM CORRECTION-2 CODE									00-FF							
1AC	ROM CORRECTION-2 CODE									00-FF							
1AD	ROM CORRECTION-2 CODE									00-FF							
1AE	ROM CORRECTION-2 CODE									00-FF							
1AF	ROM CORRECTION-2 CODE									00-FF							
1B0	ROM CORRECTION-2 CODE									00-FF							
1B1	ROM CORRECTION-2 CODE									00-FF							
1B2	ROM CORRECTION-2 CODE									00-FF							
1B3	ROM CORRECTION-2 CODE									00-FF							
1B4	ROM CORRECTION-2 CODE									00-FF							
1B5	ROM CORRECTION-2 CODE									00-FF							
1B6	ROM CORRECTION-2 CODE									00-FF							
1B7	ROM CORRECTION-2 CODE									00-FF							
1B8	ROM CORRECTION-2 CODE									00-FF							
1B9	ROM CORRECTION-2 CODE									00-FF							
1BA	ROM CORRECTION-2 CODE									00-FF							
1BB	ROM CORRECTION-2 CODE									00-FF							
1BC	ROM CORRECTION-2 CODE									00-FF							
1BD	ROM CORRECTION-2 CODE									00-FF							
1BE	ROM CORRECTION-2 CODE									00-FF							
1BF	ROM CORRECTION-2 CODE									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
1C0																	
1C1																	
1C2																	
1C3																	
1C4																	
1C5																	
1C6																	
1C7																	
1C8																	
1C9																	
1CA																	
1CB																	
1CC																	
1CD																	
1CE																	
1CF																	
1D0																	
1D1																	
1D2																	
1D3																	
1D4																	
1D5																	
1D6																	
1D7																	
1D8																	
1D9																	
1DA																	
1DB																	
1DC																	
1DD																	
1DE																	
1DF																	
1E0																	
1E1																	
1E2																	
1E3																	
1E4																	
1E5																	
1E6																	
1E7																	
1E8																	
1E9																	
1EA																	
1EB																	
1EC																	
1ED																	
1EE																	
1EF																	
1F0																	
1F1																	
1F2																	
1F3																	
1F4																	
1F5																	
1F6																	
1F7																	
1F8																	
1F9																	
1FA																	
1FB																	
1FC																	
1FD																	
1FE																	
1FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
200		R-DRIVE (V00)							3F	00-7F							
201		B-DRIVE (V00)							3F	00-7F							
202	R-CUTOFF (V00)								7F	00-FF							
203	G-CUTOFF (V00)								7F	00-FF							
204	B-CUTOFF (V00)								7F	00-FF							
205		RF-AGC (V01)							32	00-7F							
206			VIF-VCO (V02)						1F	00-3F							
207						H-VCO (V03)			03	00-07							
208		SUB CONTRAST (V04)							64	00-7F							
209		SUB COLOUR (V05)							3F	00-7F							
20A	SUB BRIGHTNESS (V06)								7F	00-FF							
20B		SUB TINT (V07)							3F	00-7F							
20C			SUB SHARPNESS (V08)						2B	00-3F							
20D		SUB-COLOUR-YUV (V09)							5A	00-7F							
20E		SUB-TINT-YUV (V10)							3F	00-7F							
20F			V-SIZE-50Hz (V11)						26	00-3F							
210						V-SHIFT-50Hz (V12)			03	00-07							
211				H-SHIFT-50Hz (V13)					09	00-1F							
212			SECAM BR (V14)						25	00-3F							
213			SECAM BB (V15)						16	00-3F							
214			SUB VOLUME (V16)						3C	00-3C							
215			V-SIZE-60Hz (V17)						1F	00-3E							
216					V-SHIFT-60Hz (V18)				06	00-0E							
217				H-SHIFT-60Hz (V19)					11	00-1E							
218					S-TRAP-BG (V20)				07	00-0F							
219					S-TRAP-I (V21)				07	00-0F							
21A					S-TRAP-DK (V22)				07	00-0F							
21B					S-TRAP-M (V23)				07	00-0F							
21C					S-TRAP-574 (V24)				07	00-0F							
21D																	
21E																	
21F																	
220																	
221																	
222																	
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225																	
226																	
227																	
228																	
229																	
22A																	
22B																	
22C																	
22D																	
22E																	
22F																	
230		S-OUT-LEVEL (F11)							95	00-7F							
231						VIF-G (F12)			04	00-07							
232						YDL (F18)			05	00-07							
233						YDL-PAL (F19)			05	00-07							
234						YDL-SECAM (F20)			07	00-07							
235						YDL-N443 (F21)			05	00-07							
236						YDL-N358 (F22)			05	00-07							
237						YDL-AV (F23)			06	00-07							
238						YDL-AV-PAL (F24)			06	00-07							
239						YDL-AV-SECAM (F25)			07	00-07							
23A						YDL-AV-N443 (F26)			06	00-07							
23B						YDL-AV-N358 (F27)			06	00-07							
23C						YDL-YUV (F28)			06	00-07							
23D			COLOUR-AV (F29)						29	00-3E							
23E			COLOUR-PAL (F30)						1F	00-3E							
23F			COLOUR-SECAM (F31)						28	00-3E							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
240			COLOUR-N443 (F32)						17	00-3E							
241			COLOUR-N358 (F33)						18	00-3E							
242			COLUR-ADJ (F34)						1F	00-3E							
243			SHARPNESS-AV (F35)						24	00-3E							
244			SHARPNESS-YUV (F36)						1F	00-3E							
245			SHARPNESS-PAL (F37)						1F	00-3E							
246			SHARPNESS-SECAM (F38)						1A	00-3E							
247			SHARPNESS-N443 (F39)						1F	00-3E							
248			SHARPNESS-N358 (F40)						1F	00-3E							
249		TINT-AV (F41)							3F	00-7E							
24A		TINT-ADJ (F42)							3F	00-7E							
24B		TINT-YUV-ADJ (F43)							3F	00-7E							
24C		R-R DRIVE (F44)							3F	00-7E							
24D		B-R DRIVE (F45)							36	00-7E							
24E		R-B DRIVE (F46)							39	00-7E							
24F		B-B DRIVE (F47)							47	00-7E							
250							TRAP (F53)		02	00-03							
251							TRAP-PAL (F54)		02	00-03							
252							TRAP-SECAM (F55)		02	00-03							
253							TRAP-N443 (F56)		02	00-03							
254							TRAP-N358 (F57)		02	00-03							
255							GAMMA (F62)		00	00-03							
256					BS-D/C (F63)				0A	00-0F							
257						SL-TV (F66)			02	00-07							
258						SL-AV (F67)			04	00-07							
259						SL-YUV (F68)			04	00-07							
25A					VD2/VD1/AS/FBP-TV (F69)				06	00-0F							
25B					VD2/VD1/AS/FBP-AV (F70)				0E	00-0F							
25C					VD2/VD1/AS/FBP-YUV (F71)				0E	00-0F							
25D							VDL (F72)		00	00-03							
25E							UDL (F73)		00	00-03							
25F							AUTO-SCM-KIL-TV (F74)		01	00-03							
260							SECAM-BGP (F76)		00	00-03							
261			TXT-POS-H (F80)						1E	00-3F							
262			TXT-POS-V (F81)						22	00-3F							
263		OSD-POS (F82)							09	00-7F							
264						SUB-BASS (F85)			06	00-07							
265						SUB-TREBLE (F86)			00	00-07							
266						AGC-ADJ (F87)			00	00-04							
267				AGC-GAIN-ADJUST (F89)					10	00-1F							
268				FM-LEVEL-ADJUST (F90)					0F	00-1E							
269				IGR-LEVEL-ADJUST (F91)					10	00-1E							
26A				NICAM-BG-LEVEL-ADJUST (F92)					0D	00-1E							
26B				NICAM-I-LEVEL-ADJUST (F93)					12	00-1E							
26C				NICAM-DK-LEVEL-ADJUST (F94)					0E	00-1E							
26D	NICAM-LOWER-ERROR-LIMIT (F95)								23	00-FF							
26E	NICAM-UPPER-ERROR-LIMIT (F96)								46	00-FF							
26F					IGR-GAIN-ADJUST (F97)				06	00-0D							
270							FM-ID-SPEED (F98)		01	00-03							
271							AUTO-SCM-KIL-AV-YUV (F101)		01	00-03							
272							AFC1-GAIN-TV (F102)		00	00-03							
273							AFC1-GAIN-AV (F103)		03	00-03							
274							AFC1-GAIN-YUV (F104)		03	00-03							
275							CON-REDUCE (F105)		00	00-02							
276	STANDBY-WO-BRIGHT (F110)								FF	00-FF							
277	AC-FAIL-WO-BRIGHT (F111)								FF	00-FF							
278							FORCED-SCM-KIL-TV (F112)		02	00-03							
279							FORCED-SCM-KIL-AV-YUV (F113)		02	00-03							
27A																	
27B																	
27C																	
27D																	
27E																	
27F																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
280	BS OFF (F08)	RGB CLIP (F07)	C.CLIP-LVL (F06)	STrapQ-574 (F05)	STrapQ-M (F04)	STrapQ-DK (F03)	STrapQ-I (F02)	STrapQ-BG (F01)	00	00-FF							
281	Ana-OSD (F100)	ABCL-G (F10)	ABCL (F09)	SHP-G-N3 (F17)	SHP-G-N4 (F16)	SHP-G-SCM (F15)	SHP-G-PAL (F14)	SHP-G (F13)	10	00-FF							
282	V-FREE (F60)	1W-AV (F59)	1W-TV (F58)	DT-N3 (F52)	DT-N4 (F51)	DT-S (F50)	DT-P (F49)	DT (F48)	44	00-FF							
283	PLL-CP (F83)	DL-Vout (F79)	DL-REV (F78)	N45 (F77)	SCM-YDL (F75)	OM DET (F65)	BS GAIN (F64)	AFC2 (F61)	80	00-FF							
284	AV2 (O11)	AV (O10)	Forced-Col (O08)	N358-TV (O07)	N443-TV (O06)	SECAM (O05)	VIF (O04)	HOTEL (O01)	DE	00-FF							
285	LED-CONT (O21)	R/C MENU (O20)	BIL (O17)	TEXT (O16)	A2 (O15)	NICAM (O14)	S-CTR (O13)	YUV (O12)	03	00-FF							
286					M (O09)	D/K (O09)	I (O09)	B/G (O09)	0F	01-0F							
287		Thai (O18)						Engilish (O18)	41	01, 40, 41							
288						SEARCH SPEED (O19)			03	01-05							
289	HOTEL CHANNEL POSITION (O02)								FF	00-63, FF							
28A	HOTEL VOLUME (O03)								FF	00-3C, FF							
28B						NICAM-AUTO-MUTE (F99)	AGC-SW-OFF (F88)	SMALL-SURR (F84)	02	00-07							
28C					C-ANGLE (F109)	TAKE-OFF-YUV (F108)	TAKE-OFF-AV (F107)	TAKE-OFF-TV (F106)	09	00-0F							
28D																	
28E																	
28F																	
290																	
291																	
292																	
293																	
294																	
295																	
296																	
297																	
298																	
299																	
29A																	
29B																	
29C																	
29D																	
29E																	
29F																	
2A0																	
2A1																	
2A2																	
2A3																	
2A4																	
2A5																	
2A6																	
2A7																	
2A8																	
2A9																	
2AA																	
2AB																	
2AC																	
2AD																	
2AE																	
2AF																	
2B0																	
2B1																	
2B2																	
2B3																	
2B4																	
2B5																	
2B6																	
2B7																	
2B8																	
2B9																	
2BA																	
2BB																	
2BC																	
2BD																	
2BE																	
2BF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
2C0																	
2C1																	
2C2																	
2C3																	
2C4																	
2C5																	
2C6																	
2C7																	
2C8																	
2C9																	
2CA																	
2CB																	
2CC																	
2CD																	
2CE																	
2CF																	
2D0																	
2D1																	
2D2																	
2D3																	
2D4																	
2D5																	
2D6																	
2D7																	
2D8																	
2D9																	
2DA																	
2DB																	
2DC																	
2DD																	
2DE																	
2DF																	
2E0																	
2E1																	
2E2																	
2E3																	
2E4																	
2E5																	
2E6																	
2E7																	
2E8																	
2E9																	
2EA																	
2EB																	
2EC																	
2ED																	
2EE																	
2EF																	
2F0																	
2F1																	
2F2																	
2F3																	
2F4																	
2F5																	
2F6																	
2F7																	
2F8																	
2F9																	
2FA																	
2FB																	
2FC																	
2FD																	
2FE																	
2FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

*1 0 : individually selectable rating system 1 : threshold selectable rating system

*2 0 : CATEGORY bit mask with (01,05) 1st character 1 : CATEGORY bit mask with (01,05) 2nd character

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
300	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 0
301	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 1
302	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 2
303	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 3
304	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 4
305	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 5
306	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 6
307	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 7
308	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 8
309	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 9
30A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 10
30B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 11
30C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 12
30D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 13
30E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 14
30F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 15
310	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 16
311	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 17
312	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 18
313	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 19
314	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 20
315	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 21
316	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 22
317	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 23
318	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 24
319	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 25
31A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 26
31B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 27
31C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 28
31D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 29
31E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 30
31F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 31
320	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 32
321	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 33
322	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 34
323	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 35
324	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 36
325	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 37
326	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 38
327	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 39
328	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 40
329	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 41
32A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 42
32B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 43
32C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 44
32D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 45
32E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 46
32F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 47
330	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 48
331	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 49
332	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 50
333	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 51
334	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 52
335	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 53
336	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 54
337	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 55
338	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 56
339	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 57
33A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 58
33B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 59
33C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 60
33D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 61
33E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 62
33F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 63
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
340	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 64
341	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 65
342	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 66
343	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 67
344	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 68
345	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 69
346	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 70
347	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 71
348	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 72
349	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 73
34A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 74
34B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 75
34C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 76
34D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 77
34E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 78
34F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 79
350	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 80
351	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 81
352	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 82
353	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 83
354	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 84
355	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 85
356	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 86
357	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 87
358	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 88
359	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 89
35A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 90
35B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 91
35C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 92
35D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 93
35E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 94
35F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 95
360	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 96
361	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 97
362	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 98
363	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 99
364																	
365																	
366																	
367																	
368																	
369																	
36A																	
36B																	
36C																	
36D																	
36E																	
36F																	
370																	
371																	
372																	
373																	
374																	
375																	
376																	
377																	
378																	
379																	
37A																	
37B																	
37C																	
37D																	
37E																	
37F																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

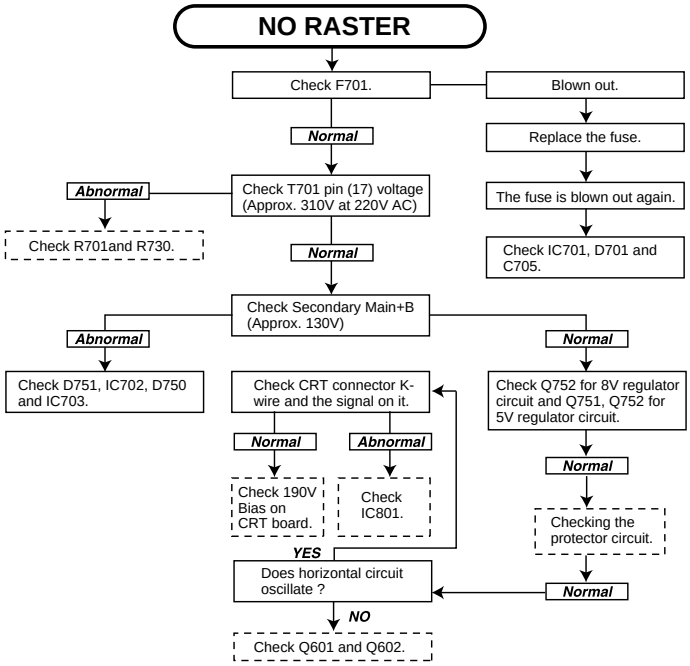
MEMORY MAP
(Continued)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
380																	
381																	
382																	
383																	
384																	
385																	
386																	
387																	
388																	
389																	
38A																	
38B																	
38C																	
38D																	
38E																	
38F																	
390																	
391																	
392																	
393																	
394																	
395																	
396																	
397																	
398																	
399																	
39A																	
39B																	
39C																	
39D																	
39E																	
39F																	
3A0																	
3A1																	
3A2																	
3A3																	
3A4																	
3A5																	
3A6																	
3A7																	
3A8																	
3A9																	
3AA																	
3AB																	
3AC																	
3AD																	
3AE																	
3AF																	
3B0																	
3B1																	
3B2																	
3B3																	
3B4																	
3B5																	
3B6																	
3B7																	
3B8																	
3B9																	
3BA																	
3BB																	
3BC																	
3BD																	
3BE																	
3BF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

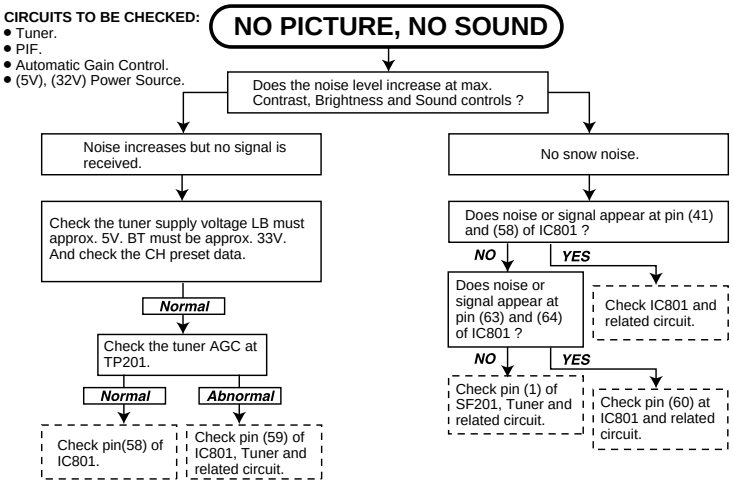
MEMORY MAP
(Continued)

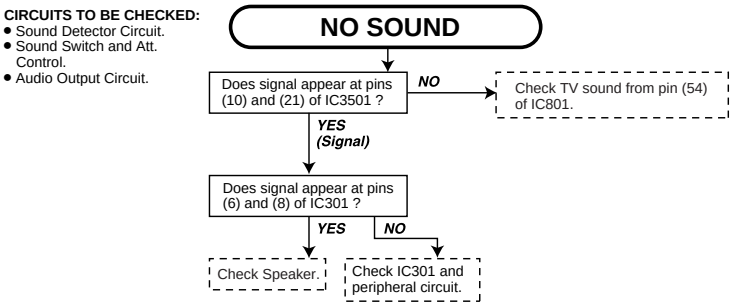
ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
3C0																	
3C1																	
3C2																	
3C3																	
3C4																	
3C5																	
3C6																	
3C7																	
3C8																	
3C9																	
3CA																	
3CB																	
3CC																	
3CD																	
3CE																	
3CF																	
3D0																	
3D1																	
3D2																	
3D3																	
3D4																	
3D5																	
3D6																	
3D7																	
3D8																	
3D9																	
3DA																	
3DB																	
3DC																	
3DD																	
3DE																	
3DF																	
3E0																	
3E1																	
3E2																	
3E3																	
3E4																	
3E5																	
3E6																	
3E7																	
3E8																	
3E9																	
3EA																	
3EB																	
3EC																	
3ED																	
3EE																	
3EF																	
3F0																	
3F1																	
3F2																	
3F3																	
3F4																	
3F5																	
3F6																	
3F7																	
3F8																	
3F9																	
3FA																	
3FB																	
3FC																	
3FD																	
3FE																	
3FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

TROUBLE SHOOTING TABLE



TROUBLE SHOOTING TABLE (Continued)


CIRCUITS TO BE CHECKED:
● Tuner.
● PIF.
● Automatic Gain Control.
● (5V), (32V) Power Source.
NO PICTURE, NO SOUND
Does the noise level increase at max. Contrast, Brightness and Sound controls ?
Noise increases but no signal is received.
No snow noise.
Check the tuner supply voltage LB must approx. 5V. BT must be approx. 33V. And check the CH preset data.
Does noise or signal appear at pin (41) and (58) of IC801 ?
NO
YES
Normal
Does noise or signal appear at pin (63) and (64) of IC801 ?
Check IC801 and related circuit.
Check the tuner AGC at TP201.
NO
YES
Normal
Abnormal
Check pin (1) of SF201, Tuner and related circuit.
Check pin (60) at IC801 and related circuit.
Check pin(58) of IC801.
Check pin (59) of IC801, Tuner and related circuit.


CIRCUITS TO BE CHECKED:
● Sound Detector Circuit.
● Sound Switch and Att. Control.
● Audio Output Circuit.
NO SOUND
Does signal appear at pins (10) and (21) of IC3501 ?
NO
Check TV sound from pin (54) of IC801.
YES (Signal)
Does signal appear at pins (6) and (8) of IC301 ?
YES
NO
Check Speaker.
Check IC301 and peripheral circuit.

TROUBLE SHOOTING TABLE (Continued)

NEITHER VERTICAL NOR HORIZONTAL SYNCHRONIZATION

CIRCUIT TO BE CHECKED:
- Sync. Separator Circuit.

Check pins(5), (6), (10) and (11) of IC801.

DEFECTIVE VERTICAL AMP. AND VERTICAL LINEARITY

Re-adjust vertical size. (Bas Data)

Vertical linearity and size are abnormal.

Check R503, R506, R513, R520 and C515.

NO VERTICAL SCAN

Check IC501 bias.

- ***Normal*** → Check C511.
- ***Abnormal*** → Check IC501.

TROUBLE SHOOTING TABLE (Continued)

NO SPECIFIC COLOUR

Is some colour produced in B/W broadcast reception ?

- ***YES*** → Check IC801.
- ***NO*** → Is the white balance properly adjusted ?
  - ***YES*** →
  - ***NO*** → Re-adjust the white balance.

- The picture colour is cyan. → Check Q855 and its adjacent circuits.
- The picture colour is magenta. → Check Q854 and its adjacent circuits.
- The picture colour is yellow. → Check Q853 and its adjacent circuits.

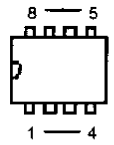
NO SPECIFICATION COLOUR "PAL" (NO COLOUR SYNCHRONIZATION)

Check IC801 and bias control circuit.

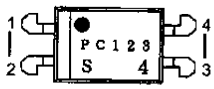
- ***Normal*** → Check X801.(4.43MHz)

SOLID STATE DEVICE BASE DIAGRAM

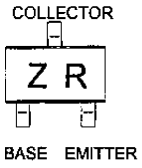
TOP VIEW



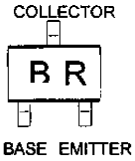
AT24W08



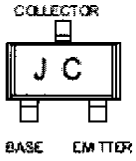
FX0008G



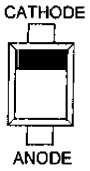
D601A



B709A

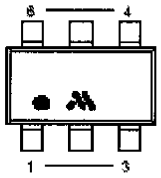


2SC2735

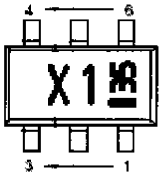


EX1393CE
EX1399CE

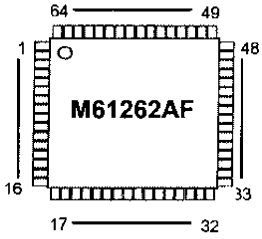
EX0867CE



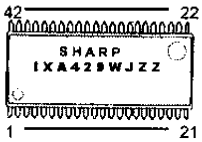
M1501XN



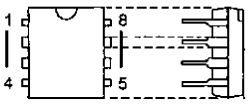
MX1C/C



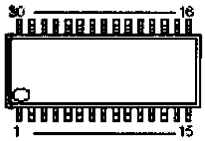
M61262AF



IXA429W

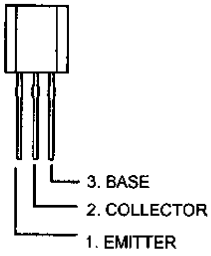


TEA1507

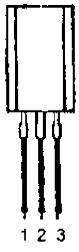


NJW1142

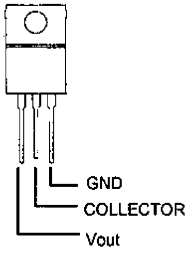
SIDE VIEW



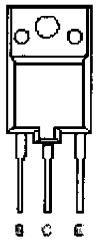
2PC1815Y
2PC1815G
2PA1015Y



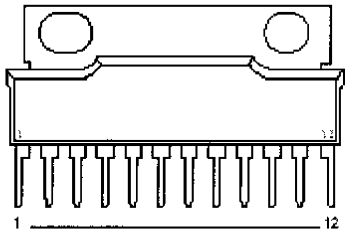
2SC2236



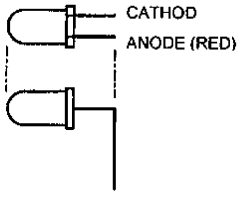
SE130N



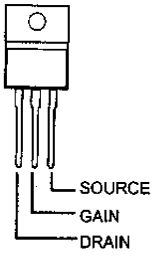
2SD2539



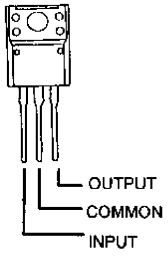
AN7522



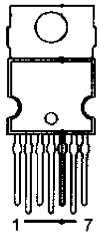
PX0013



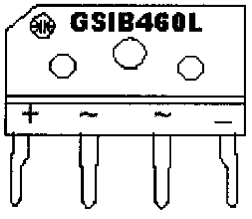
MFS7KM16



KA7809A



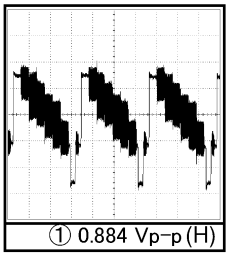
TDA9302H
(STV9302A)

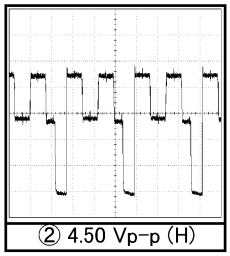


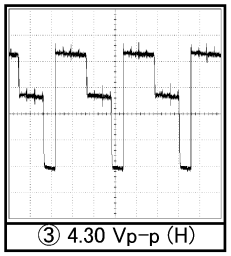
DX0111PE

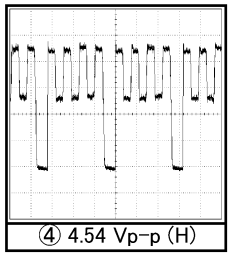
- M E M O -

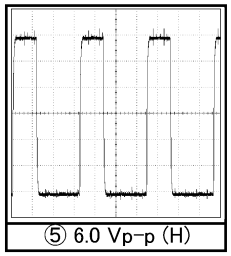
WAVEFORMS

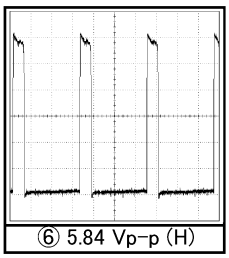

① 0.884 Vp-p (H)

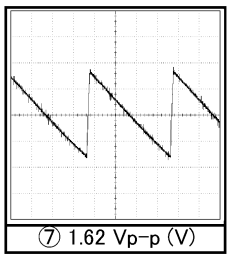

② 4.50 Vp-p (H)

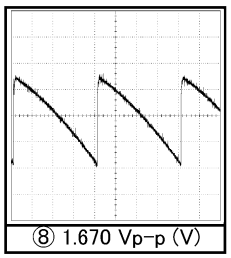

③ 4.30 Vp-p (H)

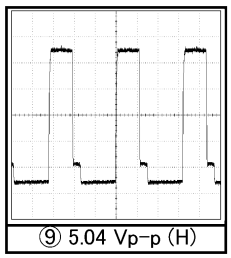

④ 4.54 Vp-p (H)

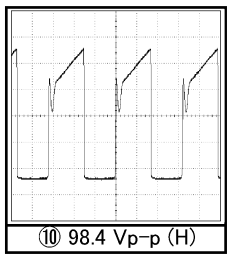

⑤ 6.0 Vp-p (H)

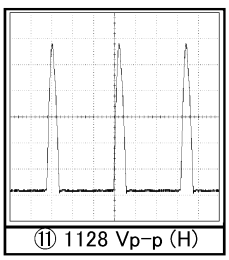

⑥ 5.84 Vp-p (H)

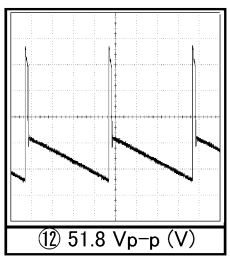

⑦ 1.62 Vp-p (V)

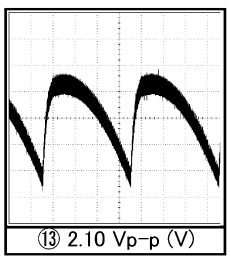

⑧ 1.670 Vp-p (V)

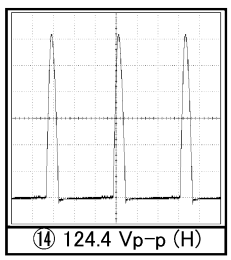

⑨ 5.04 Vp-p (H)

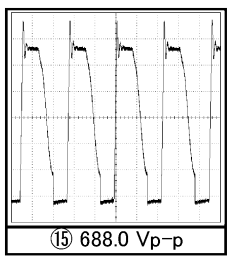

⑩ 98.4 Vp-p (H)

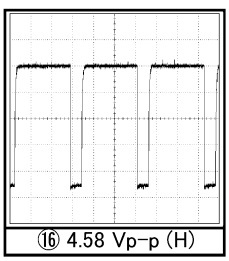

⑪ 1128 Vp-p (H)

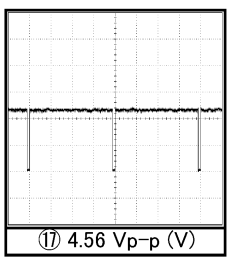

⑫ 51.8 Vp-p (V)

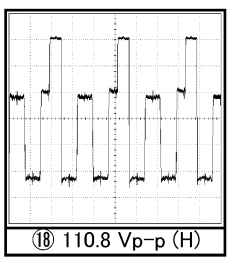

⑬ 2.10 Vp-p (V)

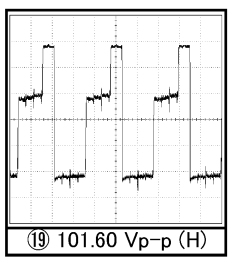

⑭ 124.4 Vp-p (H)

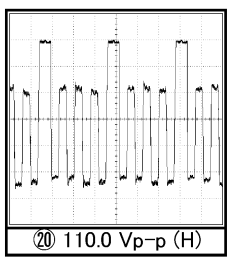

⑮ 688.0 Vp-p


⑯ 4.58 Vp-p (H)

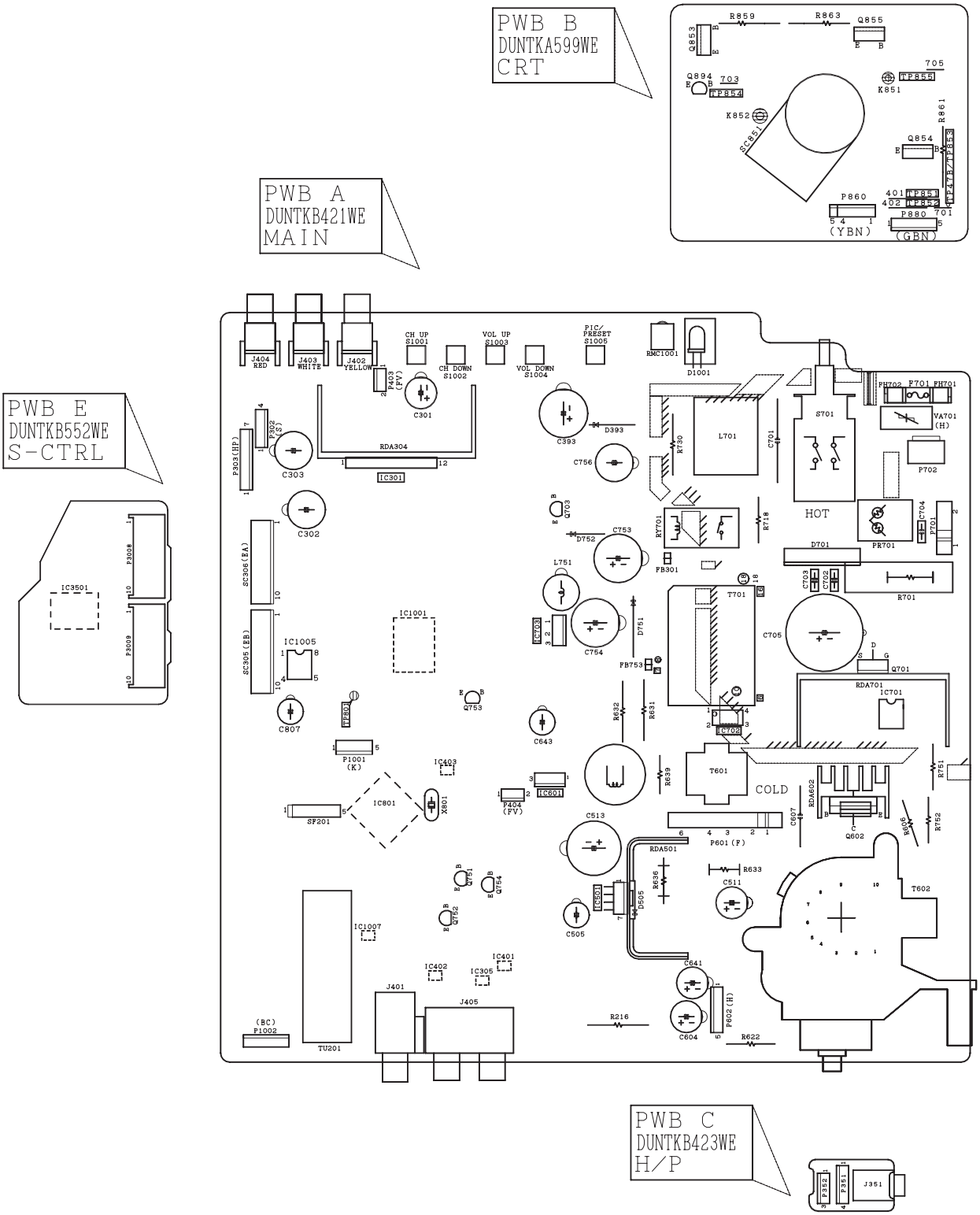

⑰ 4.56 Vp-p (V)


⑱ 110.8 Vp-p (H)


⑲ 101.60 Vp-p (H)

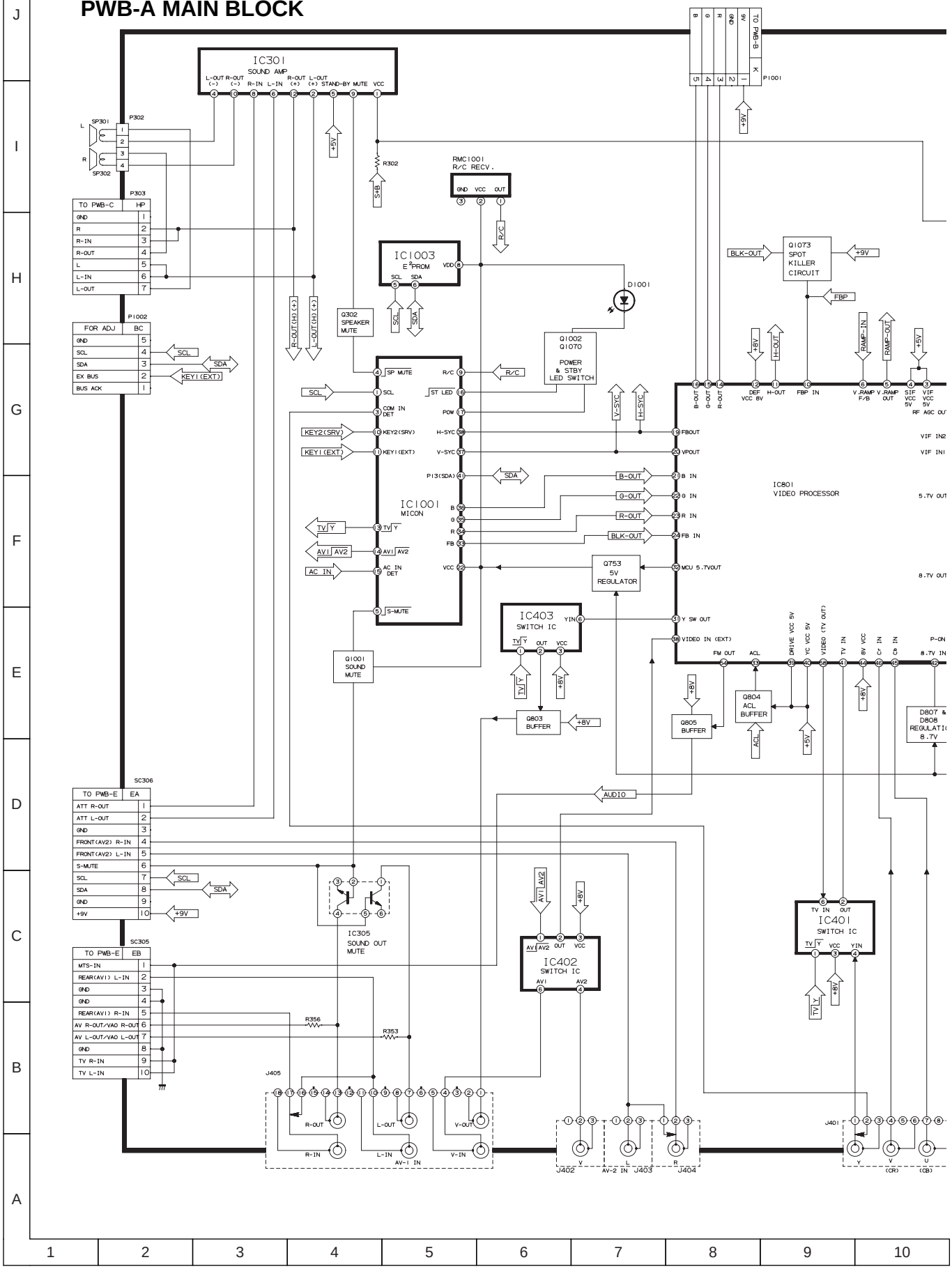

⑳ 110.0 Vp-p (H)

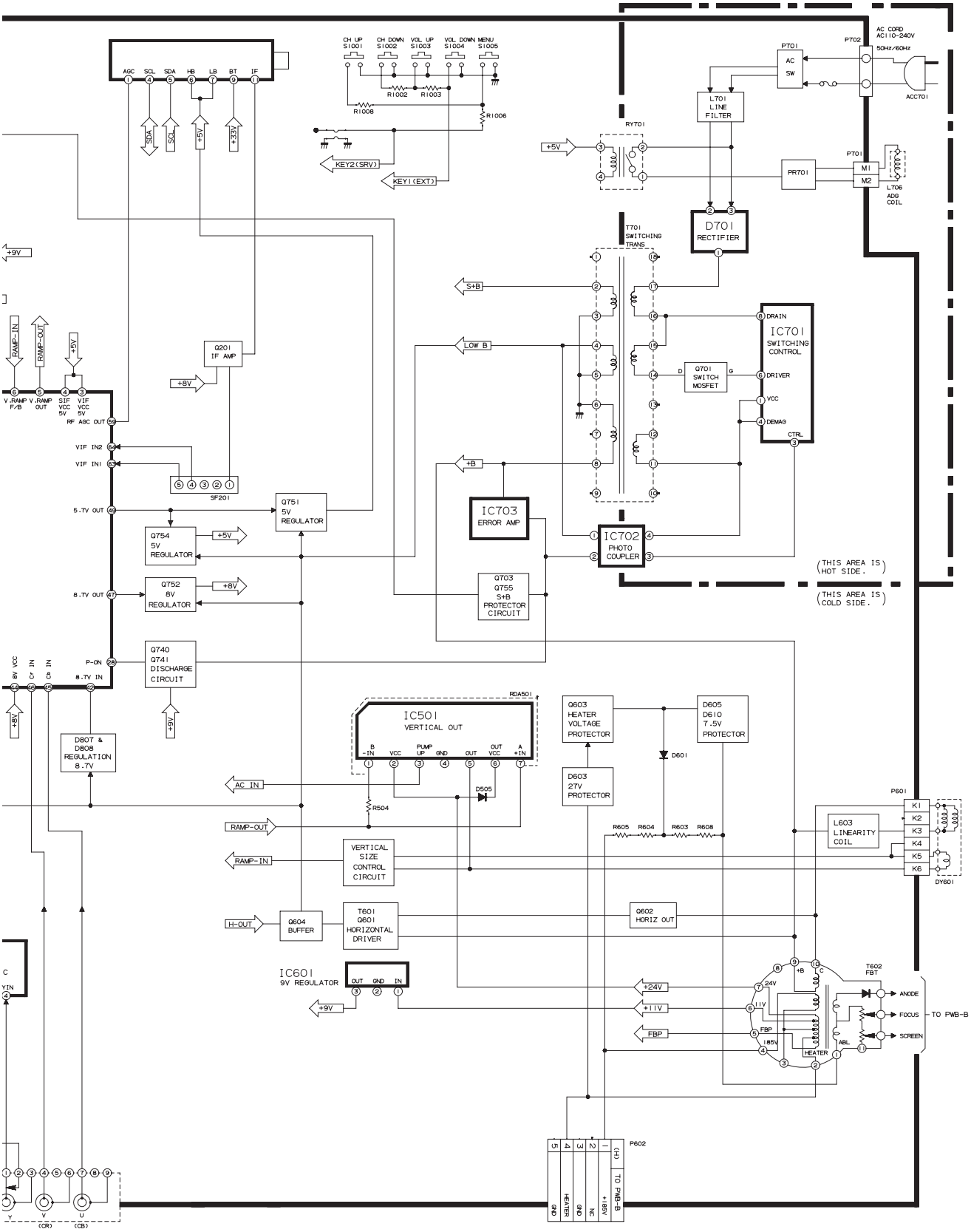
CHASSIS LAYOUT



BLOCK DIAGRAM

PWB-A MAIN BLOCK

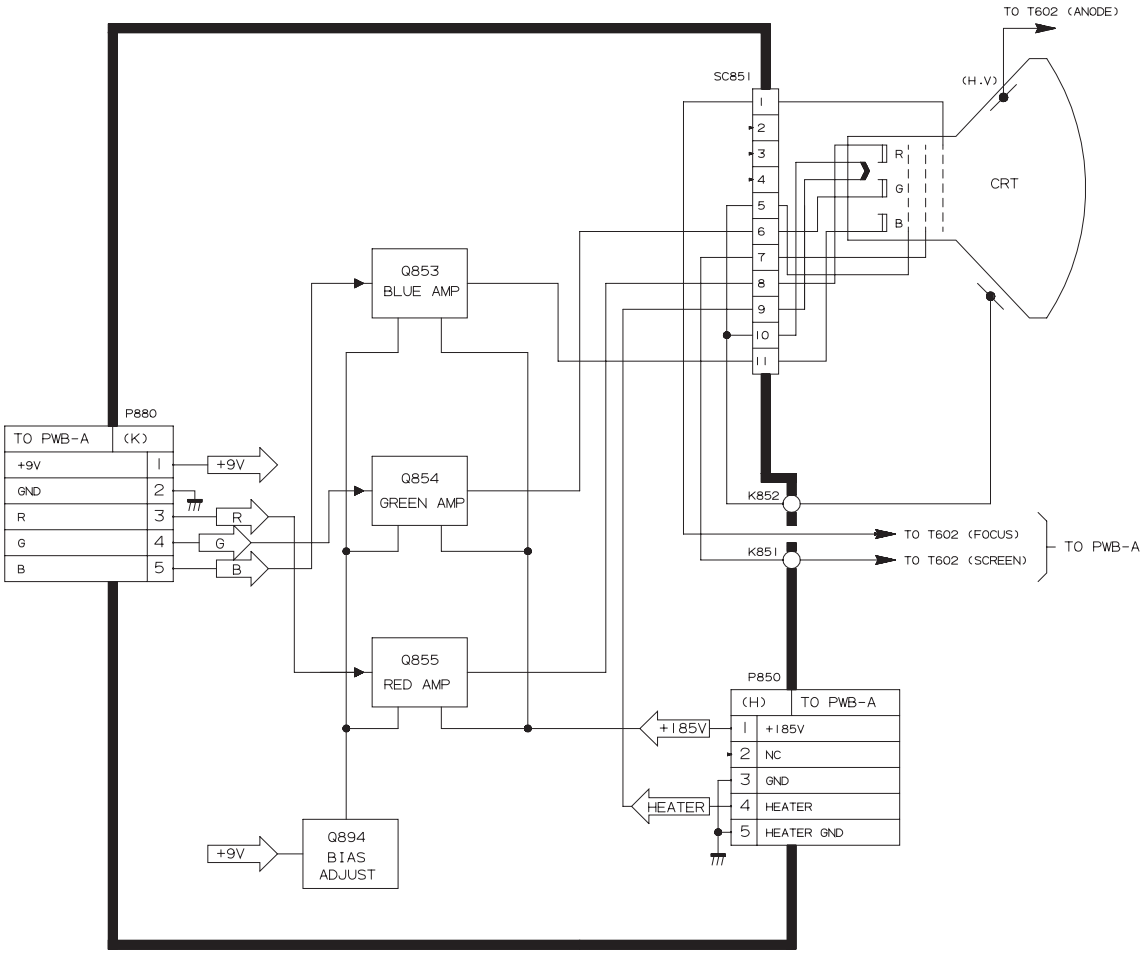




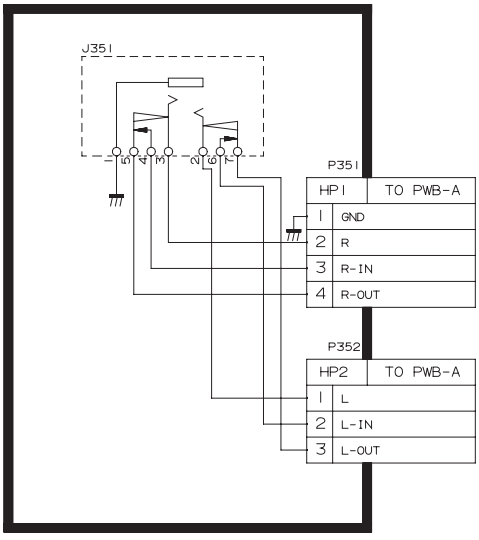
10	11	12	13	14	15	16	17	18	19

BLOCK DIAGRAM

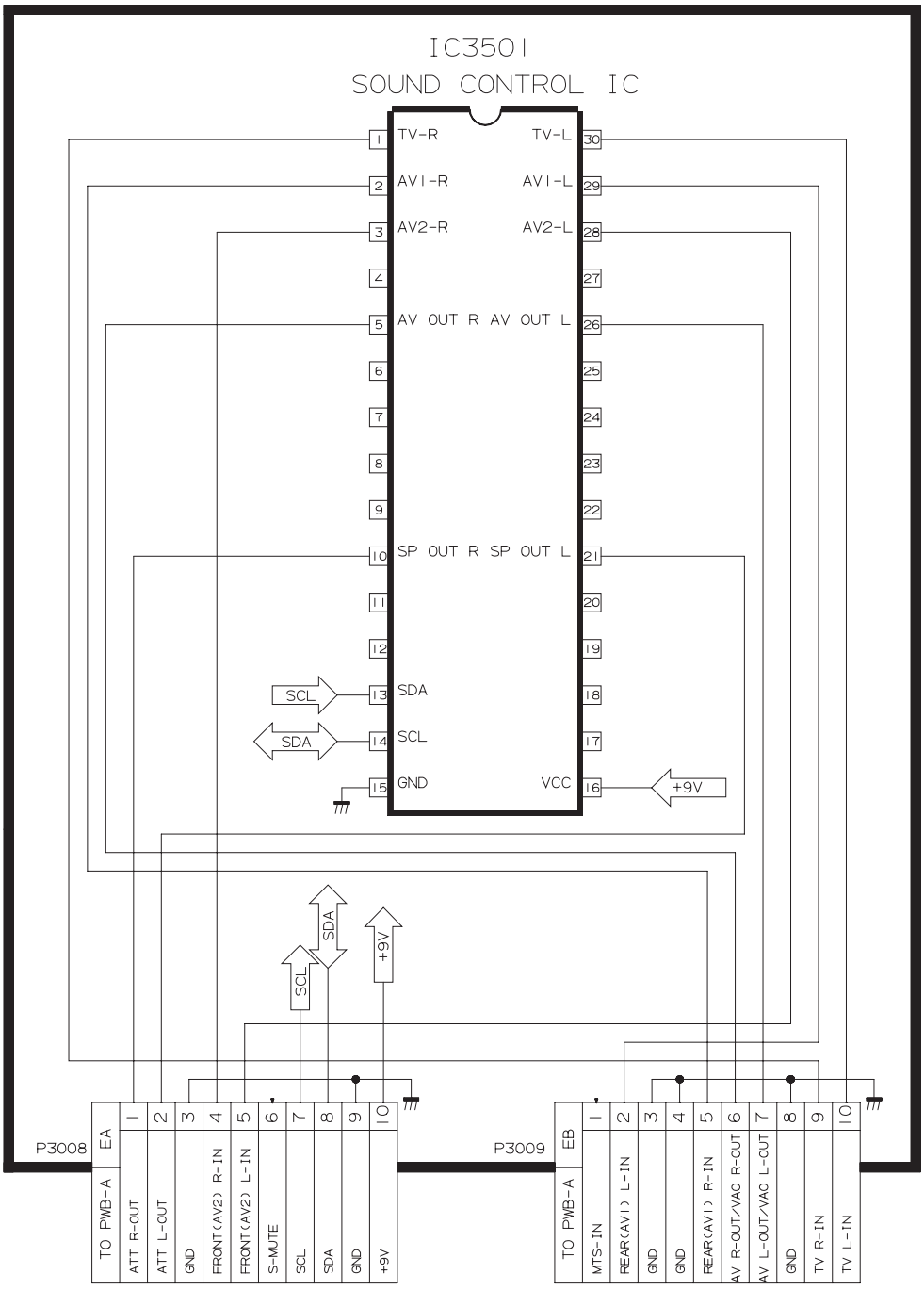
PWB-B CRT BLOCK



PWB-C HEADPHONE BLOCK



PWB-E S-CONTROL BLOCK



DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTES:

1. *DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.*
2. *SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.*

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠ " ( ) ARE IMPOTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (—– - —–) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTES:

1. *The unit of resistance "ohm" is omitted. (K = 1000 ohms, M = Mega ohm).*
2. *All resistors are 1/16 watt, unless otherwise noted.*
3. *All capacitors are μF, unless otherwise noted. (P = μμF).*

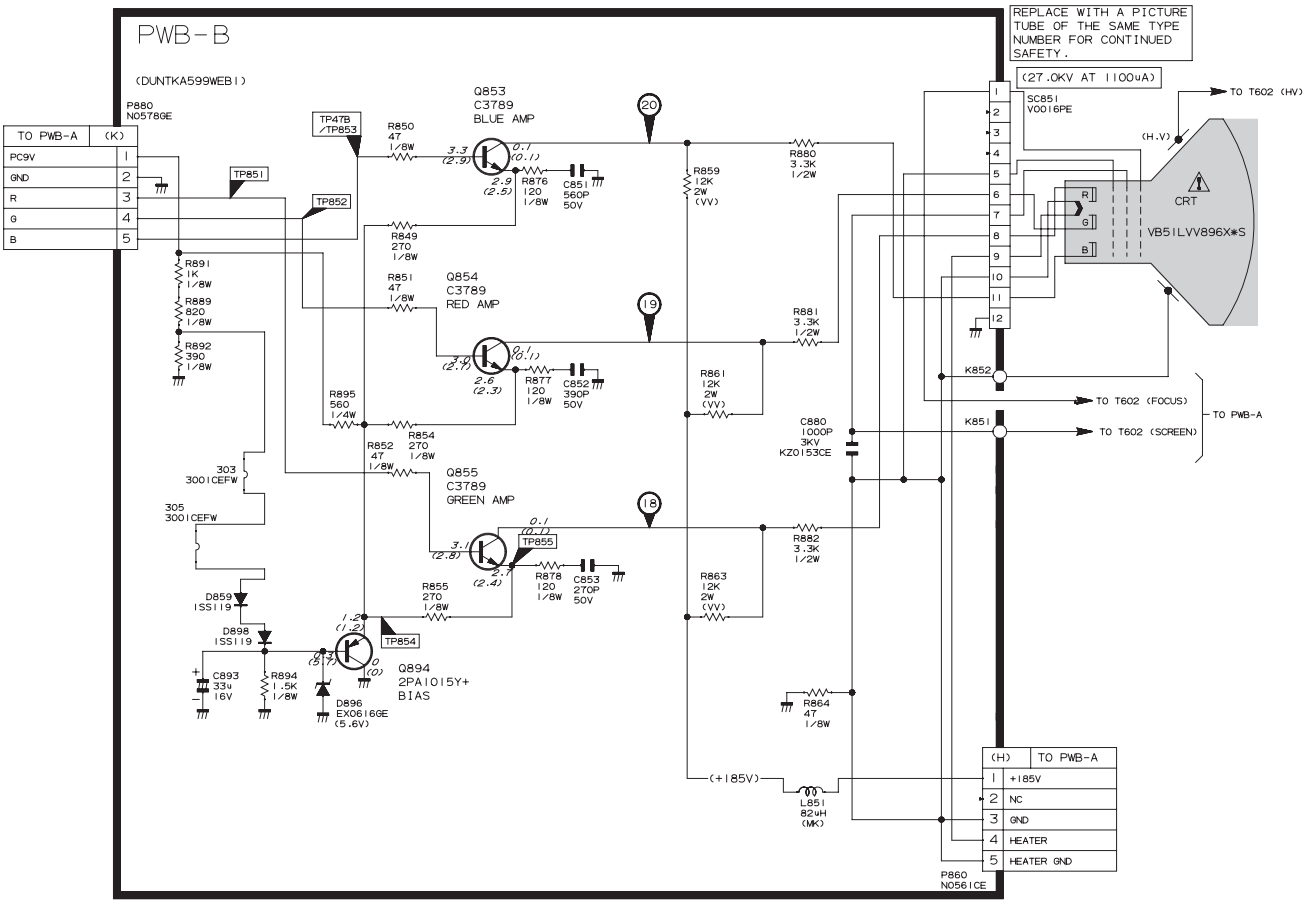
VOLTAGE MEASUREMENT CONDITIONS:

1. *Voltages in parenthesis measured with no signal.*
2. *Voltages without parenthesis measured with 3mV B & W or Colour signal.*
3. *All the voltages in each point are measured with VTVM.*

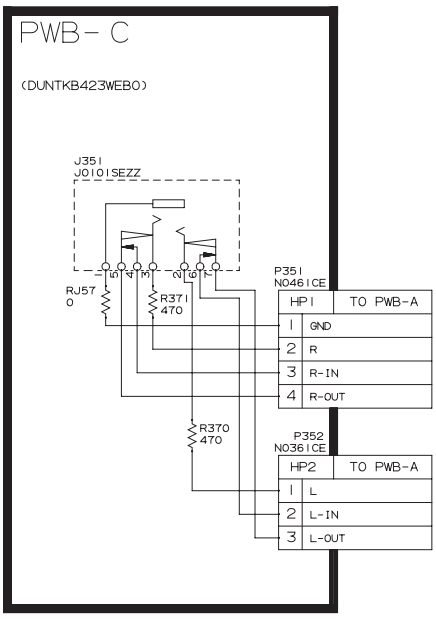
WAVEFORM MEASUREMENT CONDITIONS:

1. *The colour bar generator signal of 1.0V peak applied at pin (6) of IC401.*
2. *Approximately 4V AGC bias .*

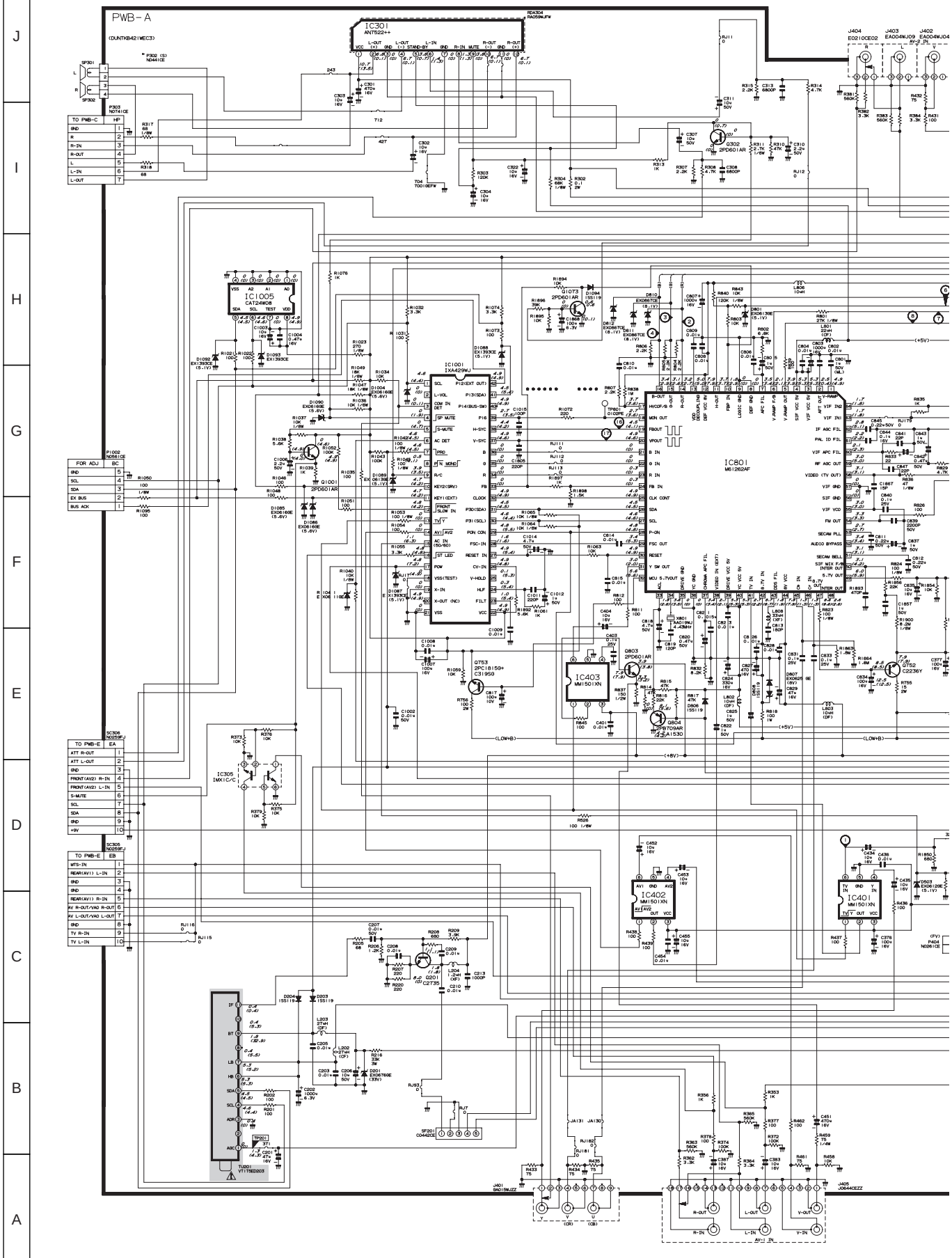
SCHEMATIC DIAGRAM: CRT Unit

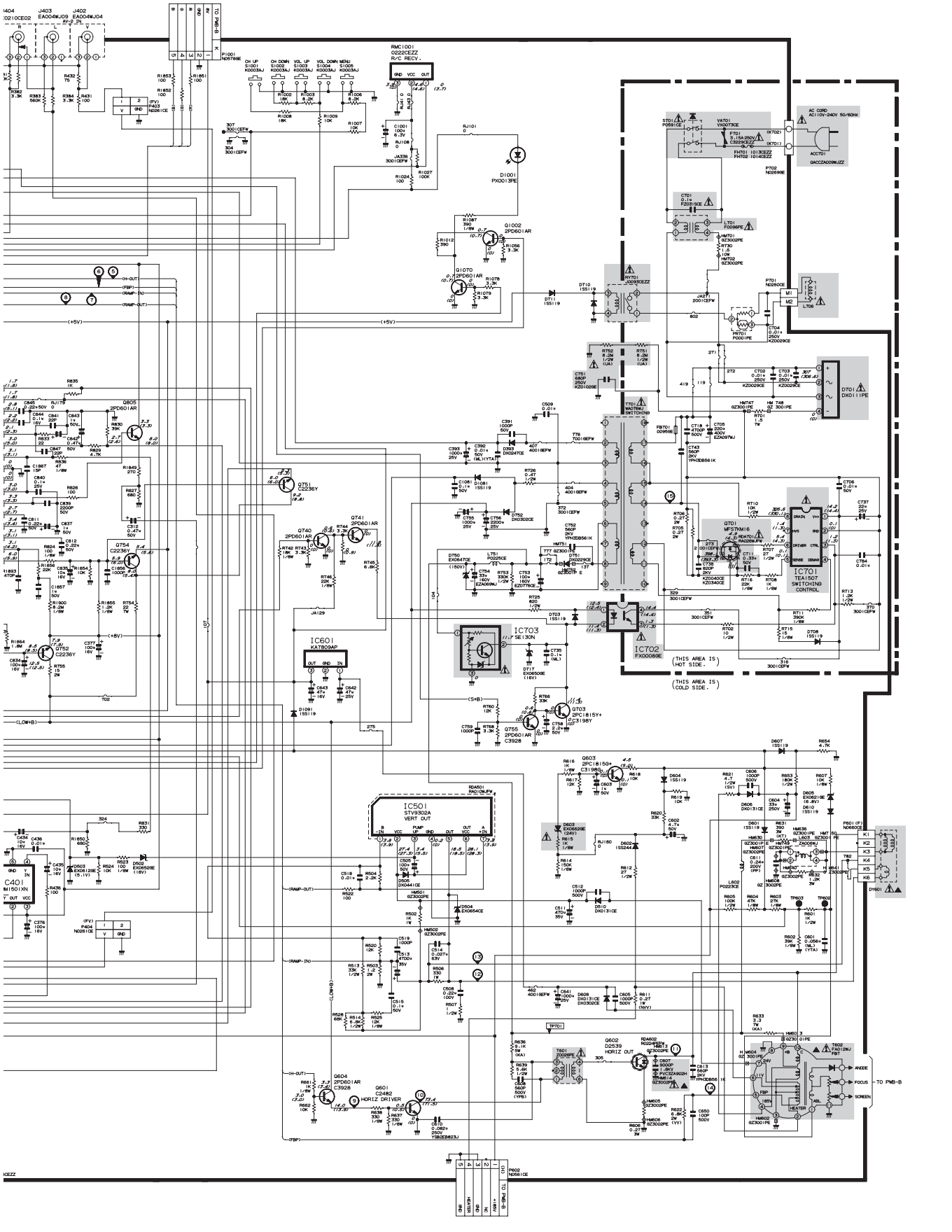


SCHEMATIC DIAGRAM: HEADPHONE Unit



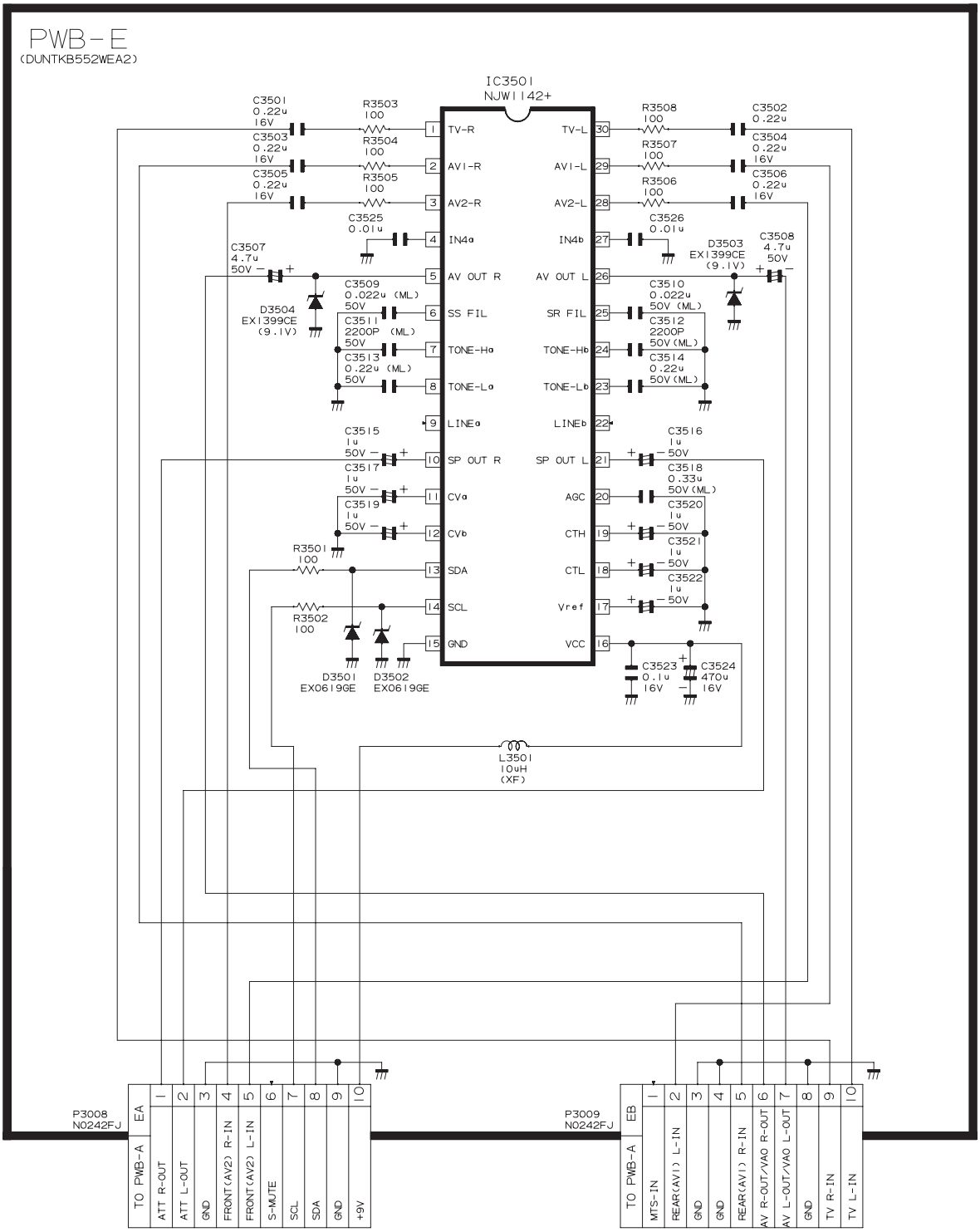
SCHEMATIC DIAGRAM: MAIN Unit





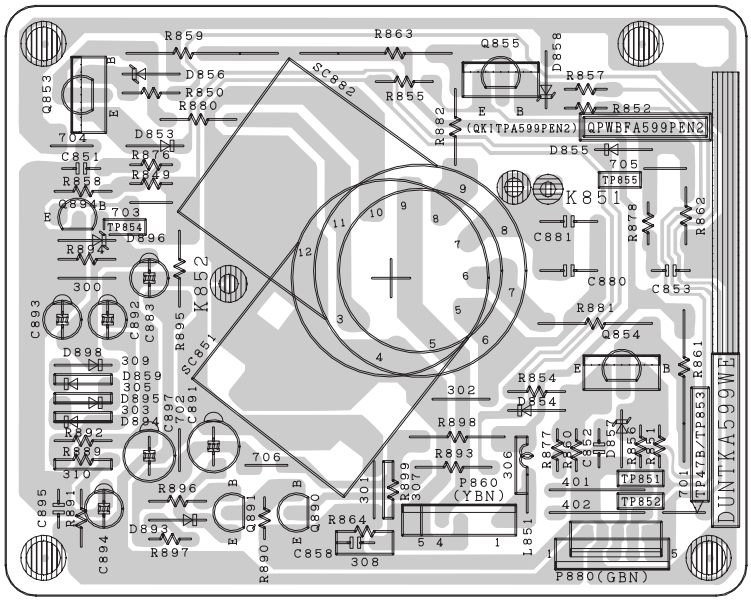
10	11	12	13	14	15	16	17	18	19

SCHEMATIC DIAGRAM: S-CONTROL Unit

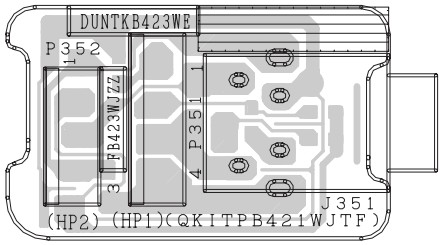


PRINTED WIRING BOARD ASSEMBLIES

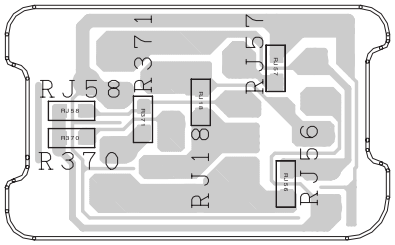
PWB-B: CRT Unit (Component Side)



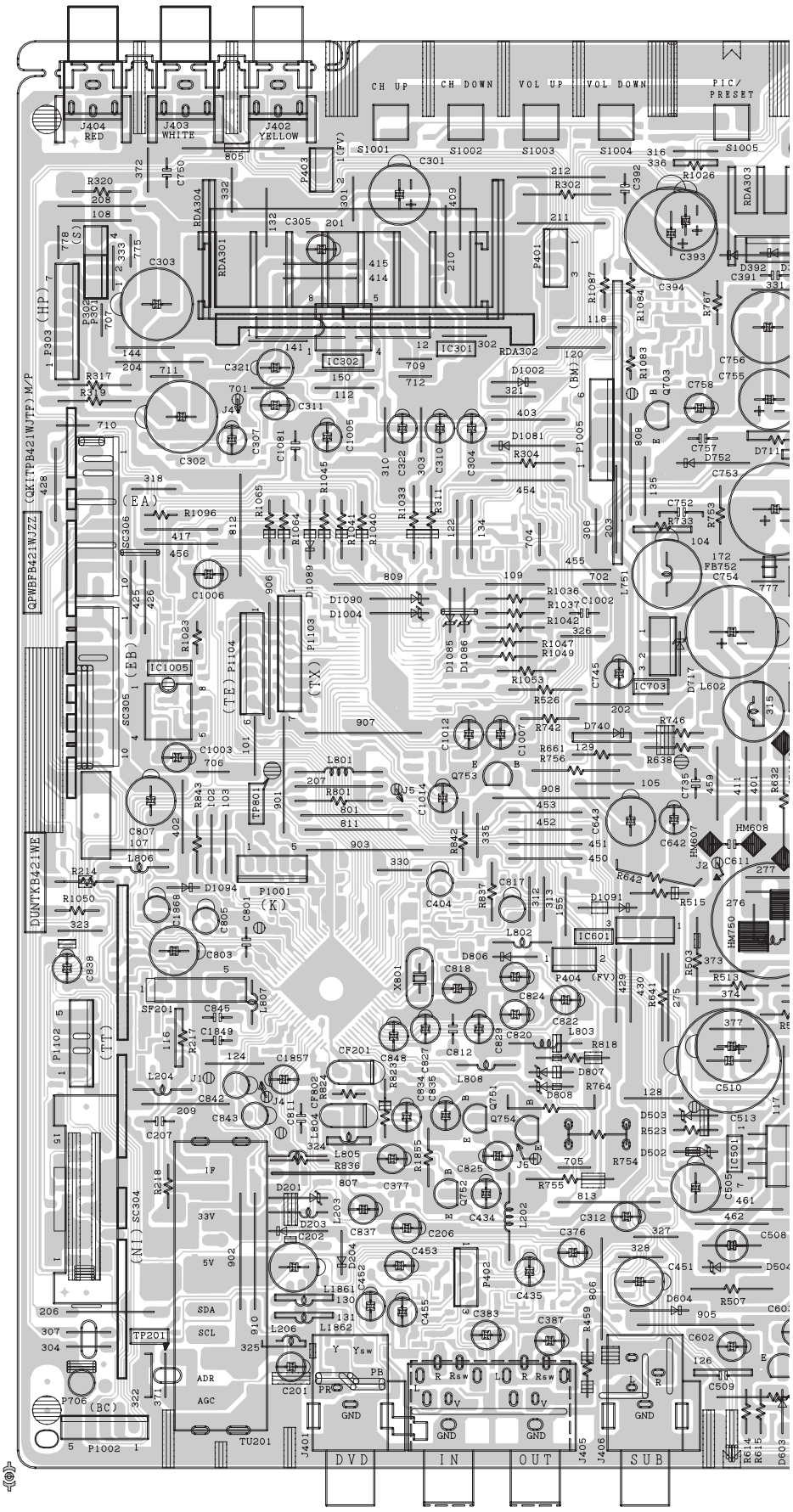
PWB-C: HEADPHONE Unit (Component Side)

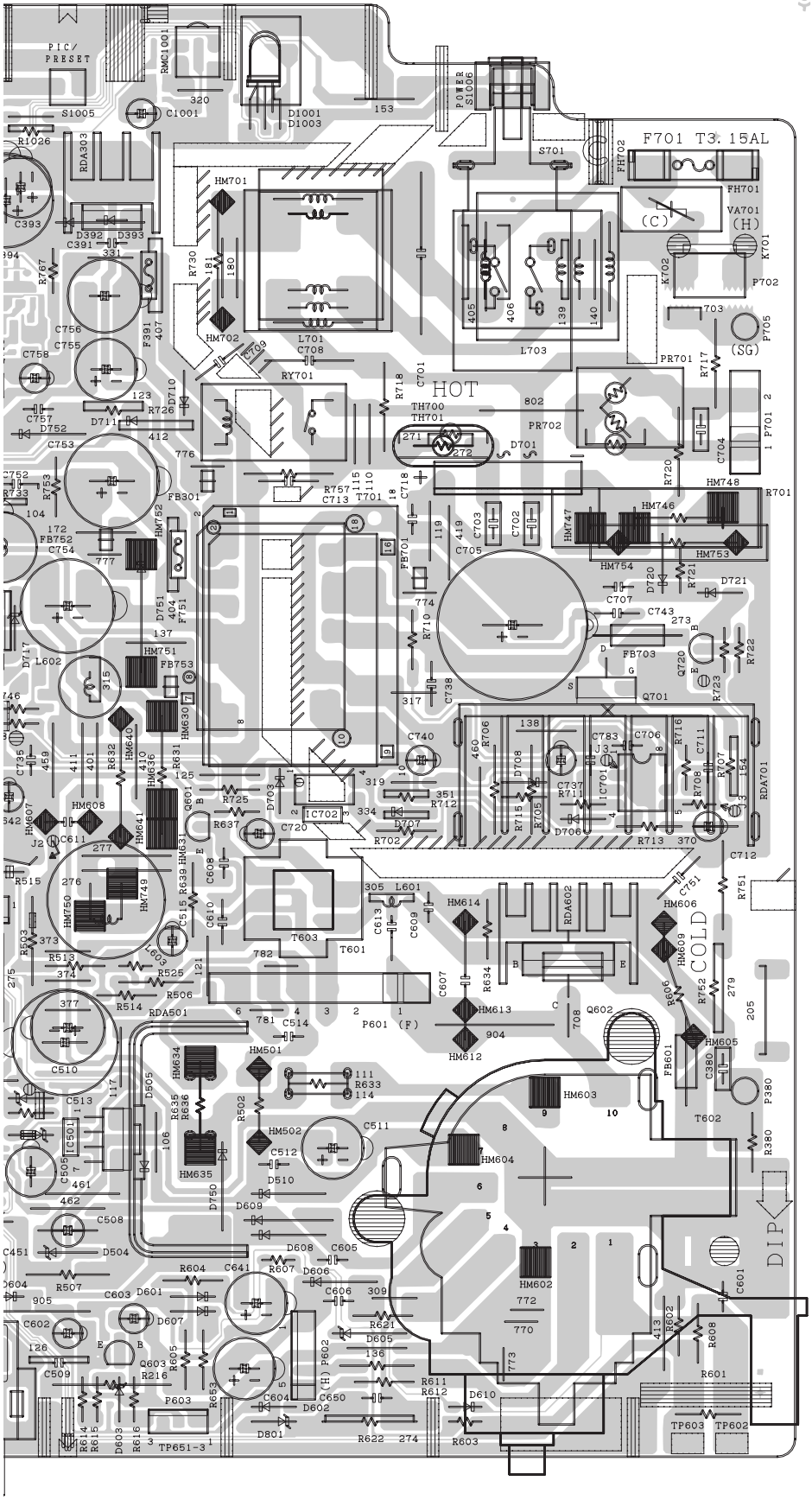


PWB-C: HEADPHONE Unit (Wiring Side)



PWB-A: MAIN Unit (Component Side)




F701 T3.15AL
HOT
COLD
DIP
(C)
(H)
(SG)
P/C/
PRESET
POWER
S1006
S1005
C1001
D1001
D1003
S701
FH701
FH702
VA701
P702
P705
L701
L703
PR701
PR702
TH700
TH701
D701
T701
FB301
FB701
FB703
FB752
FB753
Q701
Q602
IC702
T601
T602
T603
P601 (F)
P602 (H)
TP603
TP602
TP651-3
HM701
HM702
HM746
HM747
HM748
HM749
HM750
HM751
HM752
HM753
HM754
HM501
HM502
HM602
HM603
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HM641
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RDA501
RDA602
RDA701
RMC1001
RY701
L602
L603
L601
D801
D751
D752
D710
D711
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D721
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C380
C601
R730
R767
R726
R757
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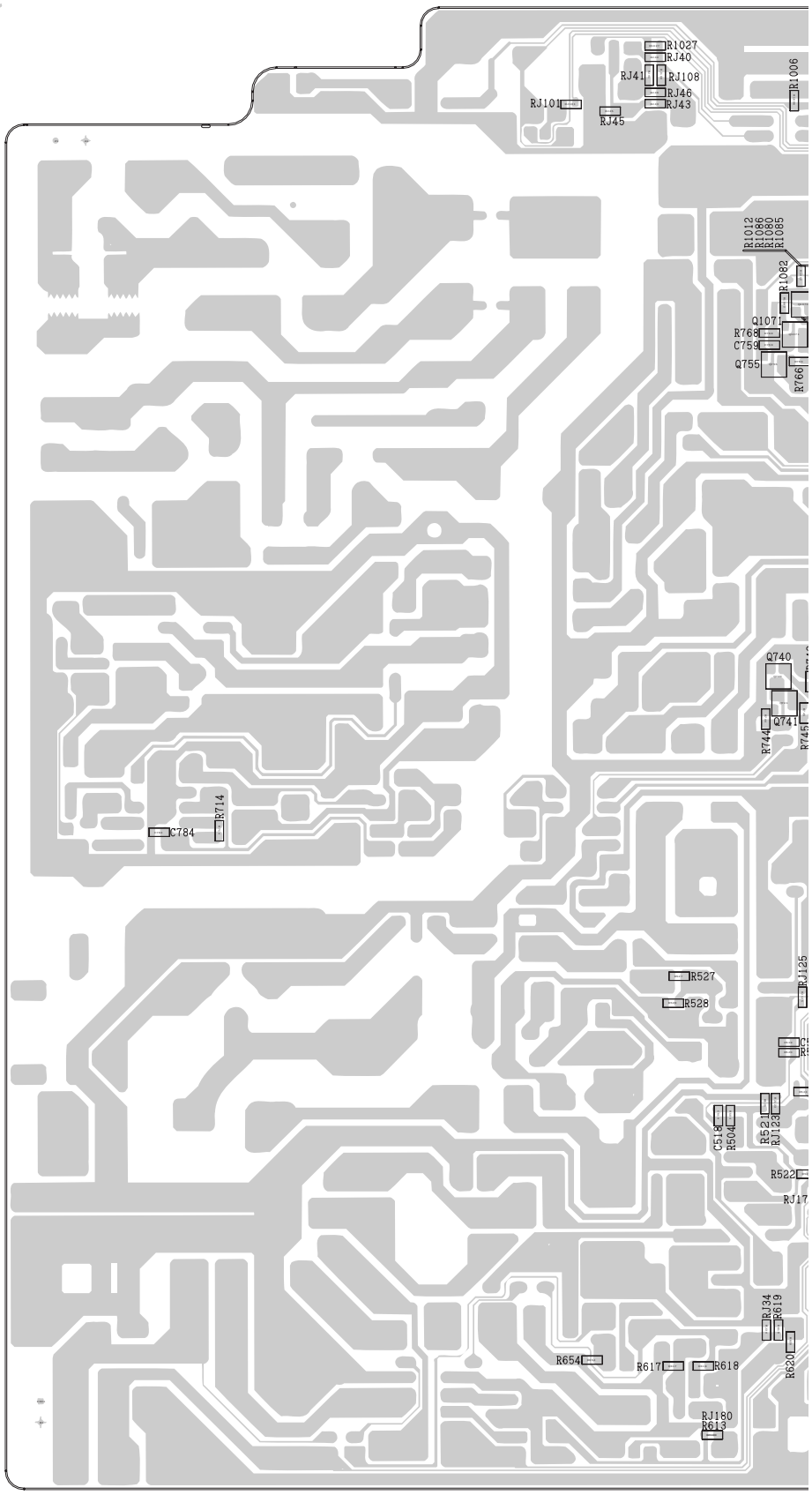
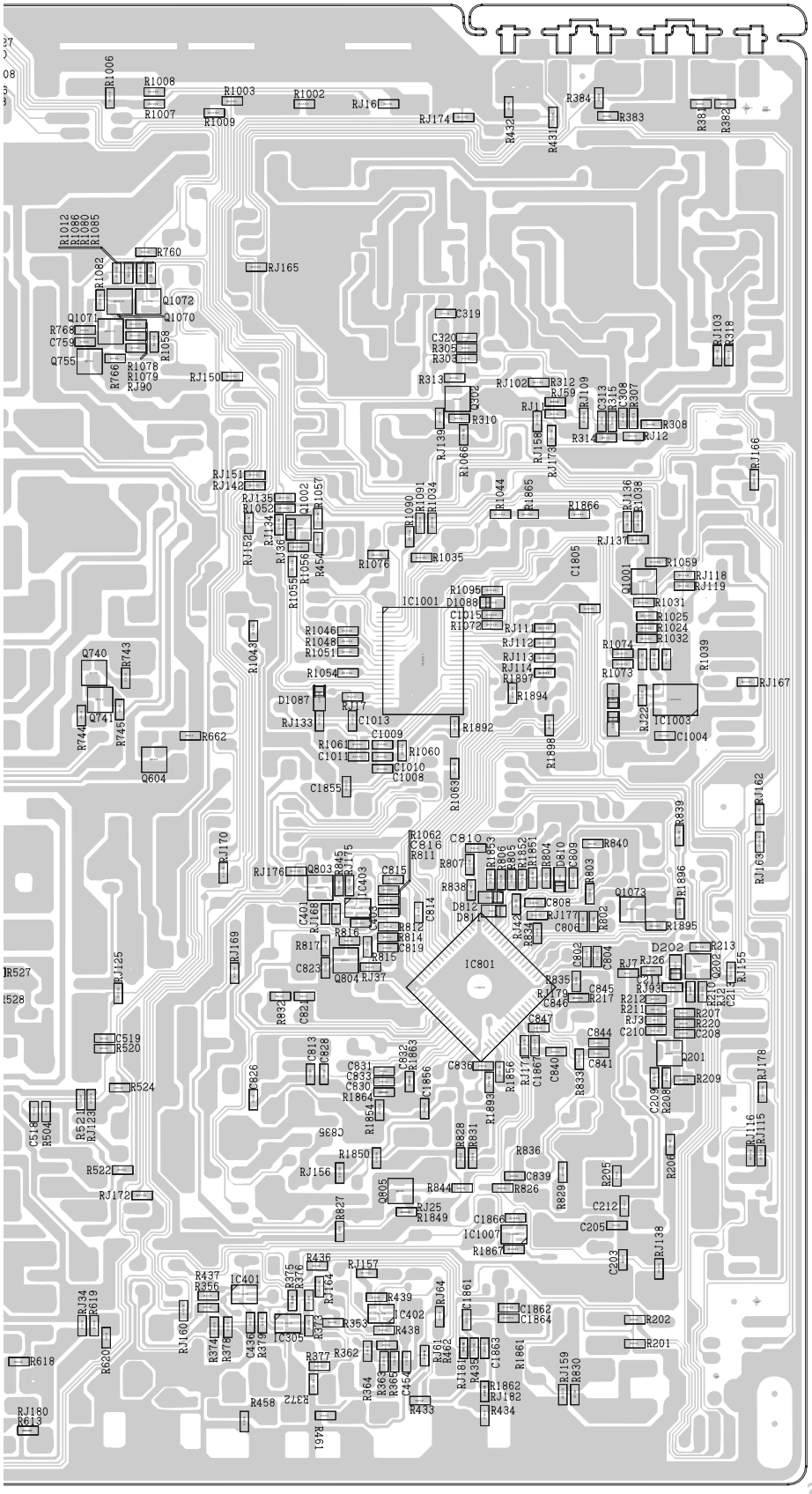
R525
R506
R515
R507
R604
R607
R621
R605
R606
R752
R611
R612
R622
R603
R653
R614
R615
R616
R608
R602
R601
R751
R380
C709
C708
C709
C708
C709
C708

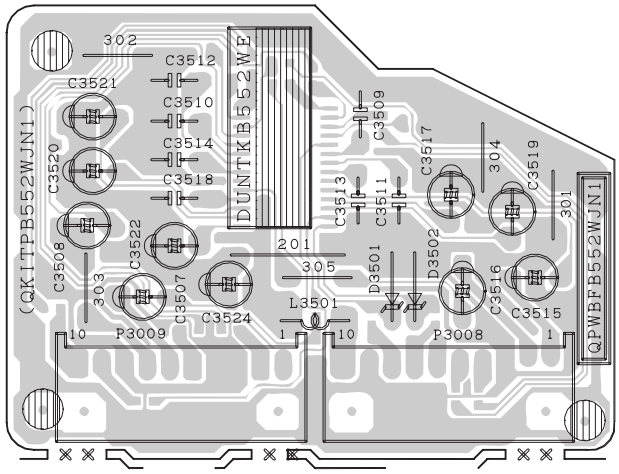
PWB-A: MAIN Unit (Wiring Side)



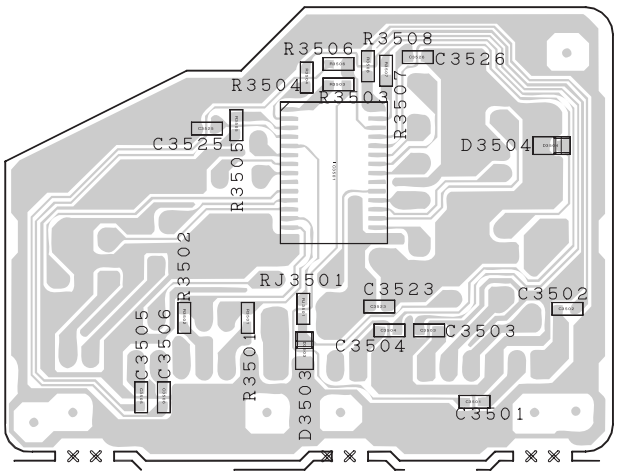


10	11	12	13	14	15	16	17	18	19

PWB-E: S-CONTROL Unit (Component Side)



PWB-E: S-CONTROL Unit (Wiring Side)



PARTS LIST

PARTS REPLACEMENT

ReplaCement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" in the ReplaCement Parts Lists.
The use of a substitute replaCement part which does not have the same safety characteristics as the factory recommended replaCement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. **MODEL NUMBER**
2. **REF. NO.**
3. **PART NO.**
4. **DESCRIPTION**

MARK ★ : SPARE PARTS-DELIVERY SECTION.

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

⚠	VB51LVV896X∗S	R	Picture Tube	CF
⚠ L706	RCiLG0069PEZZ	R	Degaussing Coil	AR
▲⚠DY601	RCiLHA068WJZZ		Deflection Yoke	
	PMAGF3046CEZZ	R	Magnet	AF
	QEARCA012WJZZ	R	Grounding Strap	AG
	MSPRC0005PEFW	R	Spring, Grounding Strap	AB
	PSPAG0003PEZZ	R	Wedge, x3	AD

PRINTED WIRING BOARD ASSEMBLY (NOT REPLACEMENT ITEM)

PWB-A	DUNTKB421WEC3	-	Main Unit	—
PWB-B	DUNTKA599WEB1	-	CRT Unit	—
PWB-C	DUNTKB423WEB0	-	Headphone Unit	—
PWB-E	DUNTKB552WEA2	-	S-Control Unit	—

Ref. No.	Part No.	★	Description	Code

DUNTKB421WEC3 PWB-A MAIN UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT INDEPENDENTLY.

⚠ TU201	VTUVT1T5ED203	R	VHF Tuner	AX

INTEGRATED CIRCUITS

IC301	VHiAN7522++-1	R	AN7522	AL
IC305	VSiMX1C/C//-1Y	R	iMX1C	AC
IC401	VHiMM1501XN-1∗	R	MM1501XNRE	AE
IC402	VHiMM1501XN-1∗	R	MM1501XNRE	AE
IC403	VHiMM1501XN-1∗	R	MM1501XNRE	AE
IC501	VHiSTV9302A-1	R	I.C.	AH
IC601	VHiKA7809AP-1	R	KIA7809API	AE
⚠ IC701	VHiTEA1507/-1	R	TEA1507P/N1	AL
⚠ IC702	RH-FX0008GEZZ	R	PC123FY8	AE
⚠ IC703	VHiSE130N//-1	R	SE130N	AF
IC801	VHiM61262AF1EQ	R	I.C.	AZ
IC1001	RH-iXA429WJZZ		I.C.	
IC1005	VHiCAT24W08-1		I.C.	

TRANSISTORS

Q201	VS2SC2735//1E∗	R	2SC2735	AC
Q302	VS2PD601AR/-1∗	R	2PD601AR	AB
Q601	VS2SC2482//-1+	R	2SC2482	AD
Q602	VS2SD2539//1E	R	2SD2539	AP
Q603	VS2SC3198-G-1+	R	2SC3198-G	AA
Q604	VS2PD601AR/-1∗	R	2PD601AR	AB
⚠ Q701	VHiMFS7KM16A1		I.C.	
Q703	VS2PC1815Y+-1+	R	2PC1815Y	AC
Q740	VS2PD601AR/-1∗	R	2PD601AR	AB
Q741	VS2PD601AR/-1∗	R	2PD601AR	AB
Q751	VS2SC2236Y/-1+	R	2SC2236Y	AD
Q752	VS2SC2236Y/-1+	R	2SC2236Y	AD
Q753	VS2SC3198-G-1+	R	2SC3198-G	AA
Q754	VS2SC2236Y/-1+	R	2SC2236Y	AD
Q755	VS2PD601AR/-1∗	R	2PD601AR	AB
Q803	VS2PD601AR/-1∗	R	2PD601AR	AB
Q804	VS2PB709AR/-1∗	R	2PB709AR	AB
Q805	VS2PD601AR/-1∗	R	2PD601AR	AB
Q1001	VS2PD601AR/-1∗	R	2PD601AR	AB
Q1002	VS2PD601AR/-1∗	R	2PD601AR	AB
Q1070	VS2PD601AR/-1∗	R	2PD601AR	AB
Q1073	VS2PD601AR/-1∗	R	2PD601AR	AB

DIODES

D201	RH-EX0676GEZZ∗	R	Zener Diode, 33V	AA
D203	VHD1SS119//-1∗	R	1SS119	AA
D204	VHD1SS119//-1∗	R	1SS119	AA
D393	RH-DX0247CEZZ	R	DX0247CE	AE
D502	RH-EX0652GEZZ∗	R	Zener Diode, 18V	AB
D503	RH-EX0612GEZZY	R	Zener Diode, 5.1V	AB
D504	RH-EX0654CEZZ∗	R	Zener Diode	AD
D505	RH-DX0441CEZZ∗	R	DX0441CE	AC
D510	RH-DX0131CEZZ∗	R	DX0131CE	AC
D601	VHD1SS119//-1∗	R	1SS119	AA
D602	VHD1SS244//-1∗	R	1SS244	AB
⚠ D603	RH-EX0662GEZZ∗	R	Zener Diode, 24V	AB
D604	VHD1SS119//-1∗	R	1SS119	AA
D605	RH-EX0621GEZZ∗	R	Zener Diode, 6.8V	AB
D606	RH-DX0131CEZZ∗	R	DX0131CE	AC
D607	VHD1SS119//-1∗	R	1SS119	AA
D608	RH-DX0131CEZZ∗	R	DX0131CE	AC
D610	VHD1SS119//-1∗	R	1SS119	AA
⚠ D701	RH-DX0111PEZZ	R	DX0111PE	AG
D703	VHD1SS119//-1∗	R	1SS119	AA
D708	VHD1SS119//-1∗	R	1SS119	AA
D710	VHD1SS119//-1∗	R	1SS119	AA
D711	VHD1SS119//-1∗	R	1SS119	AA
D717	RH-EX0650GEZZ∗	R	Zener Diode, 16V	AB
D750	RH-EX0647CEZZ∗	R	Zener Diode, 150V	AH
D751	RH-DX0229CEZZ	R	DX0229CE	AF

Ref. No.	Part No.	★		Description	Code
D752	RH-DX0302CEZZ*	R	DX0302CE		AC
D801	RH-EX0613GEZZY	R	Zener Diode, 5.1V		AB
D806	VHD1SS119//-1*	R	1SS119		AA
D807	RH-EX0625GEZZY	R	Zener Diode, 8V		AB
D808	VHD1SS119//-1*	R	1SS119		AA
D810	RH-EX0867CEZZ*	R	Zener Diode, 8.1V		AC
D811	RH-EX0867CEZZ*	R	Zener Diode, 8.1V		AC
D812	RH-EX0867CEZZ*	R	Zener Diode, 8.1V		AC
D1001	RH-PX0013PEZZ	R	PhotoDiode		AC
D1004	RH-EX0616GEZZ*	R	Zener Diode, 5.6V		AA
D1081	VHD1SS119//-1*	R	1SS119		AA
D1085	RH-EX0616GEZZ*	R	Zener Diode, 5.6V		AA
D1086	RH-EX0616GEZZ*	R	Zener Diode, 5.6V		AA
D1087	RH-EX1393CEZZ*	R	Zener Diode, 5.1V		AB
D1088	RH-EX1393CEZZ*	R	Zener Diode, 5.1V		AB
D1089	RH-EX0613GEZZY	R	Zener Diode, 5.1V		AB
D1090	RH-EX0616GEZZ*	R	Zener Diode, 5.6V		AA
D1091	VHD1SS119//-1*	R	1SS119		AA
D1092	RH-EX1393CEZZ*	R	Zener Diode, 5.1V		AB
D1093	RH-EX1393CEZZ*	R	Zener Diode, 5.1V		AB
D1094	VHD1SS119//-1*	R	1SS119		AA

PACKAGED CIRCUITS

⚠ VA701	RH-VX0073CEZZ	R	Varistor		AD
PR701	RMPTP0001PEZZ	R	Packaged Circuit		AN
X801	RCRSAA019WJZZ	R	Crystal		AF

COILS

L202	VP-CF270K0000*	R	Peaking, 27µH		AB
L203	VP-DF270K0000*	R	Peaking, 27µH		AB
L204	VP-XF1R2K0000*	R	Peaking, 1.2µH		AB
L602	RCiLP0223CEZZ	R	Coil		AE
L603	RCiLZA006WJZZ	R	Coil		AH
⚠ L701	RCiLF0096PEZZ	R	Coil		AF
L751	RCiLP0225CEZZ	R	Coil		AF
L801	VP-CF220K0000*	R	Peaking, 22µH		AB
L802	VP-DF100K0000*	R	Peaking, 10µH		AB
L803	VP-DF100K0000*	R	Peaking, 10µH		AB
L806	VP-DF100K0000*	R	Peaking, 10µH		AB
L808	VP-XF330K0000*	R	Peaking, 33µH		AB

FILTER

SF201	RFiLC0442CEZZ	R	Filter		AL

TRANSFORMERS

⚠ T601	RTRNZ0026PEZZ	R	Transformer		AH
▲⚠ T602	RTRNFA012WJZZ	R	H-Volt Transformer		BB
⚠ T701	RTRNWA076WJZZ	R	Transformer		AM

CAPACITORS

C201	VCEA0A1CW476M+R	R	47	16V	Electrolytic	AB
C202	VCEA0A0JW108M+	R	1000	6.3V	Electrolytic	AC
C203	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C205	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C206	VCEA0A1HW106M+R	R	10	50V	Electrolytic	AB
C207	VCKYPA1HB103K+	R	0.01	50V	Ceramic	AA
C208	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C209	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C210	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C213	VCKYCY1HB102K*	R	1000p	50V	Ceramic	AA
C301	VCEA0A1CW477M+R	R	470	16V	Electrolytic	AC
C302	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C303	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C304	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C307	VCEA0A1HW106M+R	R	10	50V	Electrolytic	AB
C308	VCKYCY1HB682K*	R	6800p	50V	Ceramic	AA
C310	VCEA0A1HW225M+R	R	2.2	50V	Electrolytic	AB
C311	VCEA0A1HW106M+R	R	10	50V	Electrolytic	AB
C312	VCEA0A1HW474M+R	R	0.47	50V	Electrolytic	AB
C313	VCKYCY1HB682K*	R	6800p	50V	Ceramic	AA
C322	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C376	VCEA0A1CW107M+R	R	100	16V	Electrolytic	AC
C377	VCEA0A1CW107M+R	R	100	16V	Electrolytic	AC
C383	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C387	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C391	VCKYPA1HB102K+	R	1000p	50V	Ceramic	AA
C392	VCQYTA1HM103J+	R	0.01	50V	Mylar	AB
C393	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C401	VCKYCY1HB103K*	R	0.01	50V	Ceramic	AA
C403	VCKYCY1EF104Z*	R	0.1	25V	Ceramic	AA
C404	VCEA9M1CW106M+R	R	10	16V	Electrolytic	AB
C434	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C435	VCE9GA1CW106M+R	R	10	16V	Electrolytic	AB
C436	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C451	VCEA0A1CW477M+R	R	470	16V	Electrolytic	AC
C452	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C453	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C454	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C455	VCEA0A1CW106M+R	R	10	16V	Electrolytic	AB
C505	VCEA0A1HW107M+R	R	100	50V	Electrolytic	AB
C508	VCFYAA2AA224J+	R	0.22	100V	Metallzed Polypro Film	AD
C509	VCKYD41CY103N*	R	0.01	16V	Ceramic	AB
C511	VCEA0A1VW477M	R	470	35V	Electrolytic	AB
C512	VCKYPA2HB102K+	R	1000p	500V	Ceramic	AA
C513	VCEA0A1VW478M		4700	35V	Electrolytic	
C514	VCFYSA1JB273J+	R	0.027	63V	Metallzed Polypro Film	AC
C515	VCQYTA1HM104J+	R	0.1	50V	Mylar	AB
C518	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C519	VCKYCY1HB102K*	R	1000p	50V	Ceramic	AA
C601	VCQYTA1HM563J+	R	0.056	50V	Mylar	AB
C602	VCEA0A1HW475M+R	R	4.7	50V	Electrolytic	AB
C603	VCEA0A1HW105M+R	R	1	50V	Electrolytic	AB
C604	VCEA0A2EW336M	R	33	250V	Electrolytic	AF
C605	VCKYPA2HB102K+	R	1000p	500V	Ceramic	AA
C606	VCKYPA2HB102K+	R	1000p	500V	Ceramic	AA
▲⚠ C607	VCFPVC3ZA902H	R	9000p	1800V	Metallzed Polypro Film	AD
C608	VCKYPA2HB561K+	R	560p	500V	Ceramic	AA
C610	VCFYSB2EB823J	R	0.082	250V		AD
C611	VCFPVC2DB244J	R	0.24	200V	Metallzed Polypro Film	AD
C613	VCKYPH3DB561K	R	560p	2000V	Ceramic	AC
C641	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C642	VCEA0A1EW476M+R	R	47	25V	Electrolytic	AB
C643	VCEA0A1CW476M+R	R	47	16V	Electrolytic	AB
C650	VCKYPA2HB101K+	R	100p	500V	Ceramic	AB
⚠ C701	RC-FZ031SCEZZ	R	0.1			AD
C702	RC-KZ0029CEZZ+	R	0.01	250V	Ceramic	AC
C703	RC-KZ0029CEZZ+	R	0.01	250V	Ceramic	AC
C704	RC-KZ0029CEZZ+	R	0.01	250V	Ceramic	AC
C705	RC-EZA097WJZZ	R	220	400V	Electrolytic	AM
C706	VCQYTA1HM103J+	R	0.01	50V	Mylar	AB
⚠ C711	VCFYFA1HA334J+	R	0.33	50V	Metallzed Polypro Film	AB
C718	VCKYPA2HB472K+	R	4700p	500V	Ceramic	AB
C735	VCQYTA1HM104J+	R	0.1	50V	Mylar	AB
C737	VCEA0A1EW226M+R	R	22	25V	Electrolytic	AB
C738	RC-KZ0040CEZZ	R	820p	2kV	Ceramic	AD
C743	VCKYPH3DB561K	R	560p	2000V	Ceramic	AC
⚠ C751	RC-KZ0102GEZZ	R	680p	250V	Ceramic	AE
C752	VCKYPH3DB561K	R	560p	2000V	Ceramic	AC
C753	RC-EZ0776CEZZ	R	100	160V	Electrolytic	AF
C754	RC-EZA069WJZZ	R	33	160V	Electrolytic	AE
C755	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C756	VCEA0A1EW228M	R	2200	25V	Electrolytic	AF
C758	VCEA0A1HW225M+R	R	2.2	50V	Electrolytic	AB
C759	VCKYCY1HB102K*	R	1000p	50V	Ceramic	AA
C784	VCKYCY1HB103K*	R	0.01	50V	Ceramic	AA
C801	VCFYFA1HA105J+	R	1	50V	Mylar	AE
C802	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C803	VCEA0A1CW108M+R	R	1000	16V	Electrolytic	AD
C804	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C805	VCEA9M1HW105M+R	R	1	50V	Electrolytic	AB
C806	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C807	VCEA0A1CW108M+R	R	1000	16V	Electrolytic	AD
C808	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C809	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C810	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C811	VCFYFA1HA224J+	R	0.22	50V		AB

Ref. No.	Part No.	★			Description	Code
			Metallzed Polypro Film			
C812	VCFYFA1HA224J+	R	0.22	50V		AB
			Metallzed Polypro Film			
C813	VCCCCY1HH181J*	R	180p	50V	Ceramic	AA
C814	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C815	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C817	VCEA9M1AW107M+R		100	10V	Electrolytic	AB
C818	VCEA0A1HW475M+R		4.7	50V	Electrolytic	AB
C819	VCCCCY1HH121J*	R	120p	50V	Ceramic	AA
C820	VCEA0A1HW474M+R		0.47	50V	Electrolytic	AB
C821	VCKYCY1HF153Z*	R	0.015	50V	Ceramic	AB
C822	VCE9GA1HW105M+R		1	50V	Electrolytic	AB
C823	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C824	VCEA0A1CW337M+R		330	16V	Electrolytic	AC
C825	VCE9GA1HW105M+R		1	50V	Electrolytic	AB
C826	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C827	VCEA0A1CW477M+R		470	16V	Electrolytic	AC
C828	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C829	VCEA0A1CW476M+R		47	16V	Electrolytic	AB
C831	VCKYCY1EF104Z*	R	0.1	25V	Ceramic	AA
C833	VCKYCY1EF104Z*	R	0.1	25V	Ceramic	AA
C834	VCEA0A1CW107M+R		100	16V	Electrolytic	AC
C835	VCEA0A1CW106M+R		10	16V	Electrolytic	AB
C837	VCEA0A1HW105M+R		1	50V	Electrolytic	AB
C839	VCKYCY1HB222KY	R	2200p	50V	Ceramic	AA
C840	VCKYCY1EF104Z*	R	0.1	25V	Ceramic	AA
C841	VCCCCY1HH220J*	R	22p	50V	Ceramic	AA
C842	VCEA9M1HW474M+R		0.47	50V	Electrolytic	AB
C843	VCEA9M1HW105M+R		1	50V	Electrolytic	AB
C844	VCKYCY1CF104Z*	R	0.1	16V	Ceramic	AA
C845	VCFYFA1HA224J+	R	0.22	50V		AB
			Metallzed Polypro Film			
C847	VCCCCY1HH220J*	R	22p	50V	Ceramic	AA
C1001	VCEA0A0JW107M+	R	100	6.3V	Electrolytic	AB
C1002	VCFYFA1HA103J+	R	0.01	50V		AB
			Metallzed Polypro Film			
C1003	VCEA0A1CW106M+R		10	16V	Electrolytic	AB
C1004	VCKYCY1CF474Z*	R	0.47	16V	Ceramic	AB
C1006	VCEA0A1HW225M+R		2.2	50V	Electrolytic	AB
C1007	VCEA0A1CW107M+R		100	16V	Electrolytic	AC
C1008	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C1009	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C1011	VCKYCY1HB221K*	R	220p	50V	Ceramic	AA
C1012	VCEA0A1HW105M+R		1	50V	Electrolytic	AB
C1014	VCEA0A1HW475M+R		4.7	50V	Electrolytic	AB
C1015	VCCCCY1HH101J*	R	100p	50V	Ceramic	AA
C1081	VCQYTA1HM104J+	R	0.1	50V	Mylar	AB
C1805	VCCCCY1HH221J*	R	220p	50V	Ceramic	AA
C1856	VCKYCY1HB102K*	R	1000p	50V	Ceramic	AA
C1857	VCFYFA1HA105J+	R	1	50V		AE
			Metallzed Polypro Film			
C1867	VCCCCY1HH150J*	R	15p	50V	Ceramic	AA
C1868	VCEA9M0JW107M+R		100	6.3V	Electrolytic	AB

RESISTORS

RJ7	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ11	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ12	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ17	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ22	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ34	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ37	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ41	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ43	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ93	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ101	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ108	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ111	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ112	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ113	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ115	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ116	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ118	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ119	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ123	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ125	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ133	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ134	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ135	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ136	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ137	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ138	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ150	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ151	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ152	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ155	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ158	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ160	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ162	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ163	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ164	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ165	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ168	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ171	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ176	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ177	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ179	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ180	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ181	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
RJ182	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
R201	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R202	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R205	VRS-CY1JF680J*	R	68	1/16W	Metal Oxide	AA
R206	VRS-CY1JF122J*	R	1.2k	1/16W	Metal Oxide	AA
R207	VRS-CY1JF221J*	R	220	1/16W	Metal Oxide	AA
R208	VRS-CY1JF681J*	R	680	1/16W	Metal Oxide	AA
R209	VRS-CY1JF392J*	R	3.9k	1/16W	Metal Oxide	AA
R216	VRS-VU3LE333J		33k	3W	Metal Oxide	
R220	VRS-CY1JF221J*	R	220	1/16W	Metal Oxide	AA
R302	VRS-VU3DER10J		0.1	2W	Metal Oxide	
R303	VRS-CY1JF124J*	R	120k	1/16W	Metal Oxide	AA
R304	VRD-RA2BE683J*	R	68k	1/8W	Carbon	AA
R307	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R308	VRS-CY1JF472J*	R	4.7k	1/16W	Metal Oxide	AA
R310	VRS-CY1JF473J*	R	47k	1/16W	Metal Oxide	AA
R311	VRD-RA2BE272J*	R	2.7k	1/8W	Carbon	AA
R313	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R314	VRS-CY1JF472J*	R	4.7k	1/16W	Metal Oxide	AA
R315	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R317	VRD-RA2BE680J*	R	68	1/8W	Carbon	AA
R318	VRS-CY1JF680J*	R	68	1/16W	Metal Oxide	AA
R353	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R356	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R362	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R363	VRS-CY1JF564J*	R	560k	1/16W	Metal Oxide	AA
R364	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R365	VRS-CY1JF564J*	R	560k	1/16W	Metal Oxide	AA
R372	VRS-CY1JF104J*	R	100k	1/16W	Metal Oxide	AA
R373	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R374	VRS-CY1JF104J*	R	100k	1/16W	Metal Oxide	AA
R375	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R376	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R377	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R378	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R379	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R381	VRS-CY1JF564J*	R	560k	1/16W	Metal Oxide	AA
R382	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R383	VRS-CY1JF564J*	R	560k	1/16W	Metal Oxide	AA
R384	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R431	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R432	VRS-CY1JF750J*	R	75	1/16W	Metal Oxide	AA
R433	VRS-CY1JF750J*	R	75	1/16W	Metal Oxide	AA
R434	VRS-CY1JF750J*	R	75	1/16W	Metal Oxide	AA
R435	VRS-CY1JF750J*	R	75	1/16W	Metal Oxide	AA
R436	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R437	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R438	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R439	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R458	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R459	VRD-RA2EE750JY	R	75	1/4W	Carbon	AA
R461	VRS-CY1JF750J*	R	75	1/16W	Metal Oxide	AA
R462	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★		Description		Code
R502	VRS-VU3AE102J	R	1k	1W	Metal Oxide	AB
R503	VRN-VV3DB1R2J	R	1.2	2W	Metal Film	AA
R504	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R506	VRS-VU3AE331J	R	330	1W	Metal Oxide	AB
R507	VRD-RM2HD1R0J*	R	1	1/2W	Carbon	AA
R513	VRD-RM2HD333JY	R	33k	1/2W	Carbon	AB
R514	VRD-RM2HD682J*	R	6.8k	1/2W	Carbon	AA
R520	VRS-CY1JF123J*	R	12k	1/16W	Metal Oxide	AA
R522	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R523	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R524	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R525	VRD-RA2BE123J*	R	12k	1/8W	Carbon	AA
R526	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R528	VRS-CY1JF683J*	R	68k	1/16W	Metal Oxide	AA
R601	VRD-RM2HD102J*	R	1k	1/2W	Carbon	AA
R602	VRD-RA2BE393J*	R	39k	1/8W	Carbon	AA
R603	VRD-RA2BE273J*	R	27k	1/8W	Carbon	AA
R604	VRD-RA2BE473J*	R	47k	1/8W	Carbon	AA
R605	VRD-RM2HD104J*	R	100k	1/2W	Carbon	AA
R606	VRS-VU3LER27J		0.27	3W	Metal Oxide	
R607	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R611	VRS-VU3AER27J		0.27	1W	Metal Oxide	
R612	VRD-RM2HD270J*	R	27	1/2W	Carbon	AA
R614	VRD-RA2BE154J*	R	150k	1/8W	Carbon	AA
⚠ R615	VRD-RA2BE102J*	R	1k	1/8W	Carbon	AA
R616	VRD-RA2BE102J*	R	1k	1/8W	Carbon	AA
R617	VRS-CY1JF123J*	R	12k	1/16W	Metal Oxide	AA
R618	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R619	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R620	VRS-CY1JF333J*	R	33k	1/16W	Metal Oxide	AA
R621	VRS-VU2HE4R7J		4.7	1/2W	Metal Oxide	
R622	VRS-VU3DE682J	R	6.8k	2W	Metal Oxide	AB
R631	VRS-KT3LB391J	R	390	3W	Metal Oxide	AD
R632	VRS-VU3LE122J		1.2k	3W	Metal Oxide	
R633	VRS-KA3NG3R3K	R	3.3	7W	Metal Oxide	AD
R636	VRS-KA3HG912J	R	9.1k	5W	Metal Oxide	AD
R637	VRD-RA2BE331J*	R	330	1/8W	Carbon	AA
R638	VRD-RA2BE331J*	R	330	1/8W	Carbon	AA
R639	VRD-RM2HD562JY	R	5.6k	1/2W	Carbon	AA
R653	VRD-RM2HD184J*	R	180k	1/2W	Carbon	AA
R654	VRS-CY1JF472J*	R	4.7k	1/16W	Metal Oxide	AA
R661	VRD-RA2BE102J*	R	1k	1/8W	Carbon	AA
R662	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R701	VRW-KQ3NC1R5K	R	1.5	7W	Cement	AE
R702	VRD-RM2HD100JY	R	10	1/2W	Carbon	AA
R705	VRS-VU3DER27J		0.27	2W	Metal Oxide	
R706	VRS-VU3DER27J		0.27	2W	Metal Oxide	
R707	VRD-RM2HD270J*	R	27	1/2W	Carbon	AA
R708	VRD-RA2BE102J*	R	1k	1/8W	Carbon	AA
R710	VRS-VU2HE103J		10k	1/2W	Metal Oxide	
R711	VRD-RA2BE394J*	R	390k	1/8W	Carbon	AA
R713	VRD-RM2HD122JY	R	1.2k	1/2W	Carbon	AA
R715	VRD-RA2BE150J*	R	15	1/8W	Carbon	AA
R716	VRD-RA2BE223J*	R	22k	1/8W	Carbon	AA
R725	VRD-RM2HD821JY	R	820	1/2W	Carbon	AA
R726	VRS-VU2HER47J		0.47	1/2W	Metal Oxide	
R730	VRW-GA4AB1R5K	R	1.5	10W	Cement	AE
R742	VRD-RA2BE183J*	R	18k	1/8W	Carbon	AA
R743	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R744	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R745	VRS-CY1JF682J*	R	6.8k	1/16W	Metal Oxide	AA
R746	VRD-RA2BE223J*	R	22k	1/8W	Carbon	AA
⚠ R751	VRC-UA2HG825K*	R	8.2M	1/2W	Solid	AA
⚠ R752	VRC-UA2HG825K*	R	8.2M	1/2W	Solid	AA
R753	VRD-RM2HD334J*	R	330k	1/2W	Carbon	AA
R754	VRS-KA3NG220J	R	22	7W	Metal Oxide	AD
R755	VRS-VU3DE150J	R	15	2W	Metal Oxide	AB
R756	VRS-VU3DE101J		100	2W	Metal Oxide	
R760	VRS-CY1JF123J*	R	12k	1/16W	Metal Oxide	AA
R766	VRS-CY1JF333J*	R	33k	1/16W	Metal Oxide	AA
R768	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R801	VRD-RA2BE273J*	R	27k	1/8W	Carbon	AA
R802	VRS-CY1JF682J*	R	6.8k	1/16W	Metal Oxide	AA
R803	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R804	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R805	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★		Description		Code
R806	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R807	VRS-CY1JF222J*	R	2.2k	1/16W	Metal Oxide	AA
R811	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R812	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R814	VRS-CY1JF473J*	R	47k	1/16W	Metal Oxide	AA
R815	VRS-CY1JF473J*	R	47k	1/16W	Metal Oxide	AA
R816	VRS-CY1JF223J*	R	22k	1/16W	Metal Oxide	AA
R817	VRS-CY1JF473J*	R	47k	1/16W	Metal Oxide	AA
R818	VRS-VU3AE101J	R	100	1W	Metal Oxide	AB
R823	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R824	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R826	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R827	VRS-CY1JF681J*	R	680	1/16W	Metal Oxide	AA
R829	VRS-CY1JF472J*	R	4.7k	1/16W	Metal Oxide	AA
R830	VRS-CY1JF393J*	R	39k	1/16W	Metal Oxide	AA
R831	VRS-CY1JF331J*	R	330	1/16W	Metal Oxide	AA
R832	VRS-CY1JF822J*	R	8.2k	1/16W	Metal Oxide	AA
R833	VRS-CY1JF220JY	R	22	1/16W	Metal Oxide	AA
R835	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R836	VRD-RA2BE470J*	R	47	1/8W	Carbon	AA
R837	VRD-RM2HD151J*	R	150	1/2W	Carbon	AA
R838	VRS-CY1JF105J*	R	1M	1/16W	Metal Oxide	AA
R839	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R840	VRS-CY1JF124J*	R	120k	1/16W	Metal Oxide	AA
R843	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R845	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1002	VRS-CY1JF183J*	R	18k	1/16W	Metal Oxide	AA
R1003	VRS-CY1JF822J*	R	8.2k	1/16W	Metal Oxide	AA
R1006	VRS-CY1JF822J*	R	8.2k	1/16W	Metal Oxide	AA
R1007	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R1008	VRS-CY1JF183J*	R	18k	1/16W	Metal Oxide	AA
R1009	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R1012	VRS-CY1JF391J*	R	390	1/16W	Metal Oxide	AA
R1021	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1022	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1023	VRD-RA2BE271J*	R	270	1/8W	Carbon	AA
R1024	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1027	VRS-CY1JF104J*	R	100k	1/16W	Metal Oxide	AA
R1031	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1032	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1034	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R1035	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1036	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R1037	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R1038	VRS-CY1JF562J*	R	5.6k	1/16W	Metal Oxide	AA
R1039	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R1040	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R1041	RH-EX0611GEZZ*	R	Zener Diode			AA
R1042	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R1043	VRS-CY1JF104J*	R	100k	1/16W	Metal Oxide	AA
R1045	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R1046	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1047	VRD-RA2BE183J*	R	18k	1/8W	Carbon	AA
R1048	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1049	VRD-RA2BE183J*	R	18k	1/8W	Carbon	AA
R1050	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R1051	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1052	VRS-CY1JF104J*	R	100k	1/16W	Metal Oxide	AA
R1053	VRD-RA2BE101J*	R	100	1/8W	Carbon	AA
R1054	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1055	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1056	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1059	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R1061	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R1063	VRS-CY1JF103J*	R	10k	1/16W	Metal Oxide	AA
R1064	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R1065	VRD-RA2BE103J*	R	10k	1/8W	Carbon	AA
R1072	VRS-CY1JF221J*	R	220	1/16W	Metal Oxide	AA
R1073	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1074	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1076	VRS-CY1JF102J*	R	1k	1/16W	Metal Oxide	AA
R1078	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1079	VRS-CY1JF332J*	R	3.3k	1/16W	Metal Oxide	AA
R1087	VRD-RA2BE391JY	R	390	1/8W	Carbon	AA
R1095	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R1849	VRS-CY1JF271J*	R	270	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★		Description	Code
R1850	VRS-CY1JF681J∗	R	680	1/16W Metal Oxide	AA
R1851	VRS-CY1JF101J∗	R	100	1/16W Metal Oxide	AA
R1852	VRS-CY1JF101J∗	R	100	1/16W Metal Oxide	AA
R1853	VRS-CY1JF101J∗	R	100	1/16W Metal Oxide	AA
R1854	VRS-CY1JF103J∗	R	10k	1/16W Metal Oxide	AA
R1855	VRD-RA2BE122J∗	R	1.2k	1/8W Carbon	AA
R1856	VRS-CY1JF223J∗	R	22k	1/16W Metal Oxide	AA
R1863	VRS-CY1JF185J∗	R	1.8M	1/16W Metal Oxide	AA
R1864	VRS-CY1JF185J∗	R	1.8M	1/16W Metal Oxide	AA
R1892	VRS-CY1JF562J∗	R	5.6k	1/16W Metal Oxide	AA
R1893	VCKYCY1HB471K∗	R	470PF	D50 MIC	AB
R1894	VRS-CY1JF103J∗	R	10k	1/16W Metal Oxide	AA
R1895	VRS-CY1JF103J∗	R	10k	1/16W Metal Oxide	AA
R1896	VRS-CY1JF393J∗	R	39k	1/16W Metal Oxide	AA
R1897	VRS-CY1JF102J∗	R	1k	1/16W Metal Oxide	AA
R1898	VRS-CY1JF152J∗	R	1.5k	1/16W Metal Oxide	AA
R1900	VRD-RA2BE825J∗	R	8.2M	1/8W Carbon	

SWITCHES

⚠ S701	QSW-P0591CEZZ	R	Switch, POWER		AQ
S1001	QSW-K0003AJZZ+	R	Switch, CH-UP		AB
S1002	QSW-K0003AJZZ+	R	Switch, CH-DOWN		AB
S1003	QSW-K0003AJZZ+	R	Switch, VOL.-UP		AB
S1004	QSW-K0003AJZZ+	R	Switch, VOL.-DOWN		AB
S1005	QSW-K0003AJZZ+	R	Switch, MENU		AB

BALUN

FB701	RBLN-0095GEZZ+	R	Balun		AC

MISCELLANEOUS PARTS

⚠ F701	QFS-C3229CEZZ	R	Fuse, 3.15A/250V		AD
FH701	QFSHD1013CEZZ+	R	Fuse Holder		AC
FH702	QFSHD1014CEZZ+	R	Fuse Holder		AC
J401	QJAKGA015WJZZ	R	Jack, 9Pin		AH
J402	QJAKEA004WJ04	R	AV-2 In Jack(V)		AD
J403	QJAKEA004WJ09	R	AV-2 In Jack(L)		AD
J404	QJAKE0210CE02	R	AV-2 In Jack(R)		AC
J405	QTANJ0644CEZZ	R	AV-1 In Jack		AM
P302	QPLGN0441CEZZ	R	Plug, 4pin(S)		AB
P303	QPLGN0741CEZZ	R	Plug, 7Pin(HP)		AC
P601	QPLGN0660CEZZ	R	Plug, 6Pin(K1-6)		AC
P602	QPLGN0561CEZZ	R	Plug, 5Pin(H)		AB
P701	QPLGN0260CEZZ	R	Plug, 2Pin(M1-2)		AC
P702	QPLGN0269GEZZ	R	Plug, 2Pin		AB
P1001	QPLGN0578GEZZ	R	Plug, 5Pin(K)		AB
P1002	QPLGN0561CEZZ	R	Plug, 5Pin(BC)		AB
RDA304	PRDARA059WJFW		Heat Sink for IC301		
RDA501	PRDARA010WJFW	R	Heat Sink for IC501		AD
RDA602	PRDAR0224PEFW	R	Heat Sink for Q602		AF
RDA701	PRDARA026WJFW	R	Heat Sink for Q701		AE
RMC1001	RRMCU0222CEZZ	R	Remote Receiver		AL
⚠ RY701	RRLYJ0093CEZZ	R	Relay		AG
SC305	QSOCN0259FJ00	R	Socket, 10Pin(EB)		AE
SC306	QSOCN0259FJ00	R	Socket, 10Pin(EA)		AE

DUNTKA599WEB1
PWB-B CRT UNIT

TRANSISTORS

Q853	VS2SC3789//2E	R	2SC3789		AF
Q854	VS2SC3789//2E	R	2SC3789		AF
Q855	VS2SC3789//2E	R	2SC3789		AF
Q894	VS2PA1015Y+-1+	R	2PA1015Y		AC

DIODES

D859	VHD1SS119//-1∗	R	1SS119		AA
D896	RH-EX0616GEZZ∗	R	Zener Diode, 5.6V		AA
D898	VHD1SS119//-1∗	R	1SS119		AA

COIL

L851	VP-MK820K0000+	R	Peaking, 82μH		AB

Ref. No.	Part No.	★		Description	Code

CAPACITORS

C851	VCKYPA1HB561K+	R	560p	50V	Ceramic	AA
C852	VCKYPA1HB391K+	R	390p	50V	Ceramic	AA
C853	VCKYPA1HB271K+	R	270p	50V	Ceramic	AB
C880	RC-KZ0153CEZZ	R	100p	3kV		AB
C893	VCEA0A1CW336M+	R	33	16V	Electrolytic	AB

RESISTORS

R849	VRD-RA2BE271J∗	R	270	1/8W	Carbon	AA
R850	VRD-RA2BE470J∗	R	47	1/8W	Carbon	AA
R851	VRD-RA2BE470J∗	R	47	1/8W	Carbon	AA
R852	VRD-RA2BE470J∗	R	47	1/8W	Carbon	AA
R854	VRD-RA2BE271J∗	R	270	1/8W	Carbon	AA
R855	VRD-RA2BE271J∗	R	270	1/8W	Carbon	AA
R859	VRS-VU3DE123J	R	12k	2W	Metal Oxide	AB
R861	VRS-VU3DE123J	R	12k	2W	Metal Oxide	AB
R863	VRS-VU3DE123J	R	12k	2W	Metal Oxide	AB
R864	VRD-RA2BE470J∗	R	47	1/8W	Carbon	AA
R876	VRD-RA2BE121JY	R	120	1/8W	Carbon	AA
R877	VRD-RA2BE121JY	R	120	1/8W	Carbon	AA
R878	VRD-RA2BE121JY	R	120	1/8W	Carbon	AA
R880	VRD-RM2HD332J∗	R	3.3k	1/2W	Carbon	AA
R881	VRD-RM2HD332J∗	R	3.3k	1/2W	Carbon	AA
R882	VRD-RM2HD332J∗	R	3.3k	1/2W	Carbon	AA
R889	VRD-RA2BE821J∗	R	820	1/8W	Carbon	AA
R891	VRD-RA2BE102J∗	R	1k	1/8W	Carbon	AA
R892	VRD-RA2BE391JY	R	390	1/8W	Carbon	AA
R894	VRD-RA2BE152J∗	R	1.5k	1/8W	Carbon	AA
R895	VRD-RA2EE561J∗	R	560	1/4W	Carbon	AA

MISCELLANEOUS PARTS

P860	QPLGN0561CEZZ	R	Plug, 5Pin(H)		AB
P880	QPLGN0578GEZZ	R	Plug, 5Pin(K)		AB
SC851	QSOCV0016PEZZ	R	Socket, 12Pin		AF

DUNTKB423WEB0
PWB-C HEADPHONE UNIT

RESISTORS

RJ57	VRS-CY1JF000J∗	R	0	1/16W	Metal Oxide	AA
R370	VRS-CY1JF471J∗	R	470	1/16W	Metal Oxide	AA
R371	VRS-CY1JF471J∗	R	470	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

J351	QJAKJ0101SEZZ	R	Jack		AE
P351	QPLGN0461CEZZ	R	Plug, 4Pin(HP1)		AB
P352	QPLGN0361CEZZ	R	Plug, 3Pin(HP2)		AB

DUNTKB552WEA2
PWB-E S-CONTOL UNIT

INTEGRATED CIRCUIT

IC3501	VHiNJW1142+-1∗	R	I.C.		AQ

DIODES

D3501	RH-EX0619GEZZ∗	R	Zener Diode		AA
D3502	RH-EX0619GEZZ∗	R	Zener Diode		AA
D3503	RH-EX1399CEZZ∗	R	Zener Diode, 9.1V		AB
D3504	RH-EX1399CEZZ∗	R	Zener Diode, 9.1V		AB

COIL

L3501	VP-XF100K0000∗	R	Peaking, 10μH		AB

CAPACITORS

C3501	VCKYCY1CF224Z∗	R	0.22	16V	Ceramic	AB
C3502	VCKYCY1HF224ZY	R	0.22	50V	Ceramic	AA

Ref. No.	Part No.	★		Description		Code
C3503	VCKYCY1CF224Z*	R	0.22	16V	Ceramic	AB
C3504	VCKYCY1CF224Z*	R	0.22	16V	Ceramic	AB
C3505	VCKYCY1CF224Z*	R	0.22	16V	Ceramic	AB
C3506	VCKYCY1CF224Z*	R	0.22	16V	Ceramic	AB
C3507	VCEA0A1HW475M+	R	4.7	50V	Electrolytic	AB
C3508	VCEA0A1HW475M+	R	4.7	50V	Electrolytic	AB
C3509	VCQYTA1HM223J+	R	0.022	50V	Mylar	AB
C3510	VCQYTA1HM223J+	R	0.022	50V	Mylar	AB
C3511	VCQYTA1HM222J+	R	2200p	50V	Mylar	AA
C3512	VCQYTA1HM222J+	R	2200p	50V	Mylar	AA
C3513	VCFYFA1HA224J+	R	0.22	50V	Mylar	AB
C3514	VCFYFA1HA224J+	R	0.22	50V	Mylar	AB
C3515	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3516	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3517	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3518	VCFYFA1HA334J+	R	0.33	50V	Mylar	AB
C3519	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3520	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3521	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3522	VCEA0A1HW105M+	R	1	50V	Electrolytic	AB
C3523	VCKYCY1CF104Z*	R	0.1	16V	Ceramic	AA
C3524	VCEA0A1CW477M+	R	470	16V	Electrolytic	AC
C3525	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA
C3526	VCKYCY1HF103Z*	R	0.01	50V	Ceramic	AA

RESISTORS

RJ3501	VRS-CY1JF000J*	R	0	1/16W	Metal Oxide	AA
R3501	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3502	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3503	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3504	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3505	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3506	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3507	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA
R3508	VRS-CY1JF101J*	R	100	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

P3008	QPLGN0242FJ00	R	Plug, 10Pin(EA)	AE
P3009	QPLGN0242FJ00	R	Plug, 10Pin(EB)	AE

Ref. No.	Part No.	★	Description	Code

MISCELLANEOUS PARTS

⚠ ACC701	QACCZA009WJZZ		AC Cord	
SP301	VSP9050PB35WA	R	Speaker(L)	AK
SP302	VSP9050PB35WA	R	Speaker(R)	AK
	QCNW-A922WJZZ	R	Connecting Cord (K)	AF
	QCNW-A923WJZZ	R	Connecting Cord (H)	AE
	QCNW-B266WJZZ		Connecting Cord (HP)	
	QCNW-B267WJZZ		Connecting Cord (FV)	
	QCNW-B316WJZZ		Connecting Cord (S)	

SUPPLIED ACCESSORIES

RRMCG0026KJSA		Infrared Remote Control Unit
TiNS-A588WJZZ		Opearation Manual

ACCESSORIES (NOT REPLACEMENT ITEM)

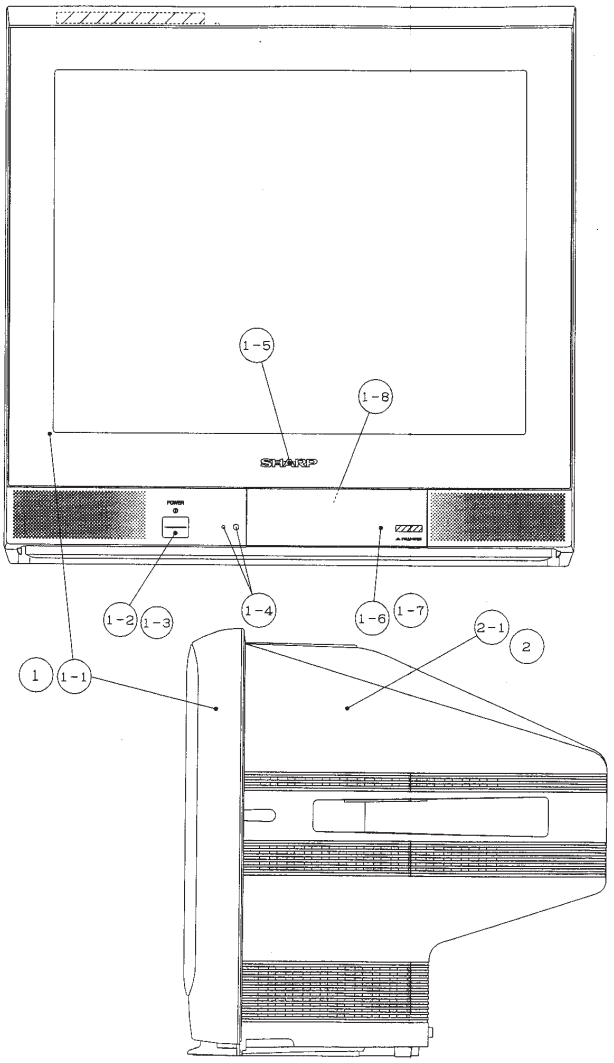
TCAUA0002PEZZ	-	Caution Card	—

PACKING PARTS

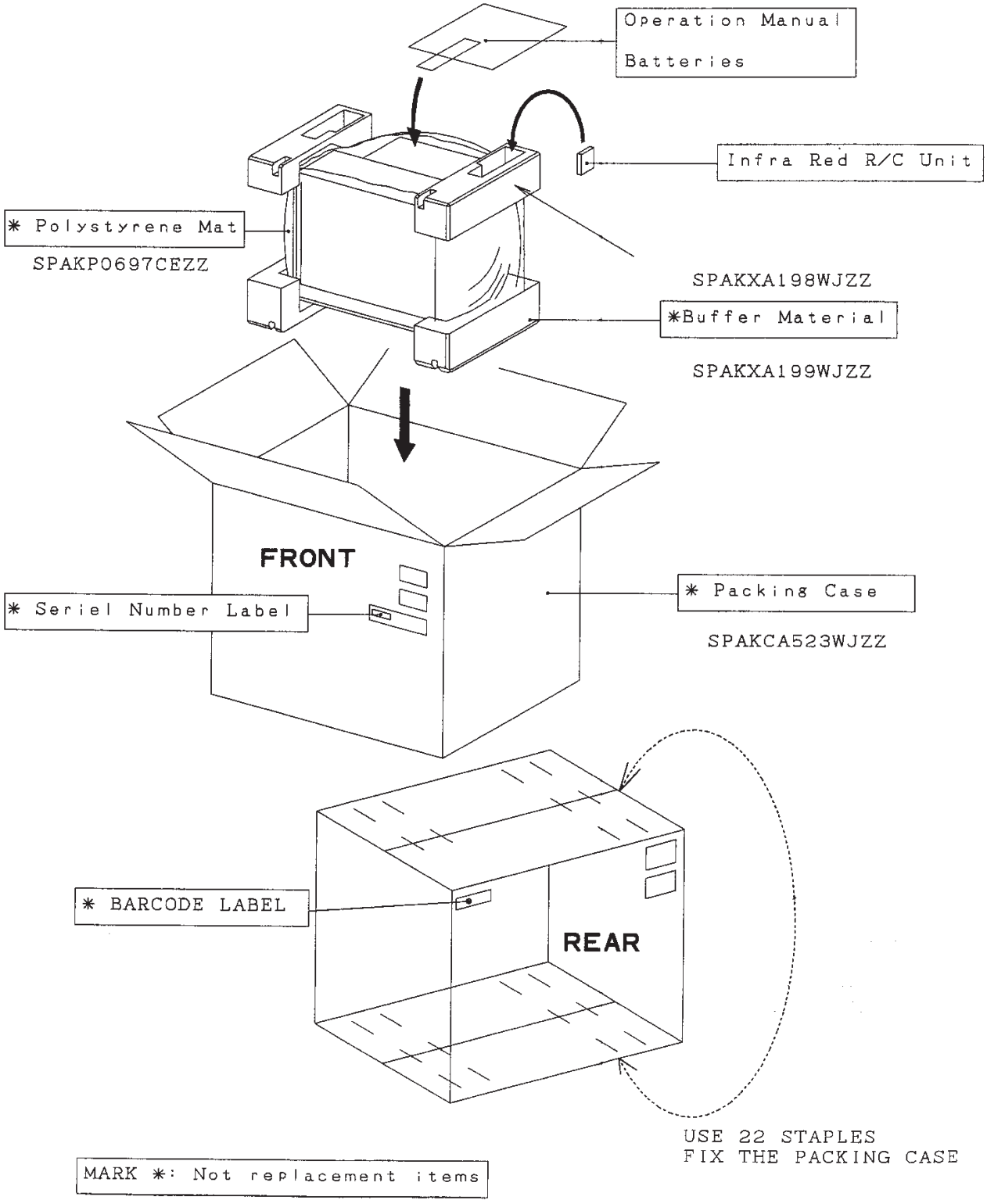
< NOT REPLACEMENT ITEM >

SPAKCA523WJZZ	-	Packing Case	—
SPAKP0697CEZZ	-	Wrapping Paper	—
SPAKXA198WJZZ	-	Packing Add.(Top)	—
SPAKXA199WJZZ	-	Packing Add.(Bottom)	—
SSAKA0230CEZZ	-	Polyethylene Bag	—

Ref. No.	Part No.	★	Description	Code
			CABINET PARTS	
1	CCABAA261WEA0		Front Cabinet Ass'y	
1-1	*Not Available*	-	Front Cabinet	—
1-2	JBTN-A140WJSA		Power Button	
1-3	MSPRC0005PEFW	R	Power Button Spring	AB
1-4	GCOVAA361WJSA		R/C Cover	
1-5	HBDGB0001KJSC	R	SHARP Badge	AE
1-6	GDORFA039WJSA		Door	
1-7	MSPRPA025WJFW		Door Spring	
1-8	HiNDPA343WJZZ		Indication Plate	
2	CCABBA160WEA0		Rear Cabinet Ass'y	
2-1	*Not Available*	-	Rear Cabinet	—



PACKING OF THE SET



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